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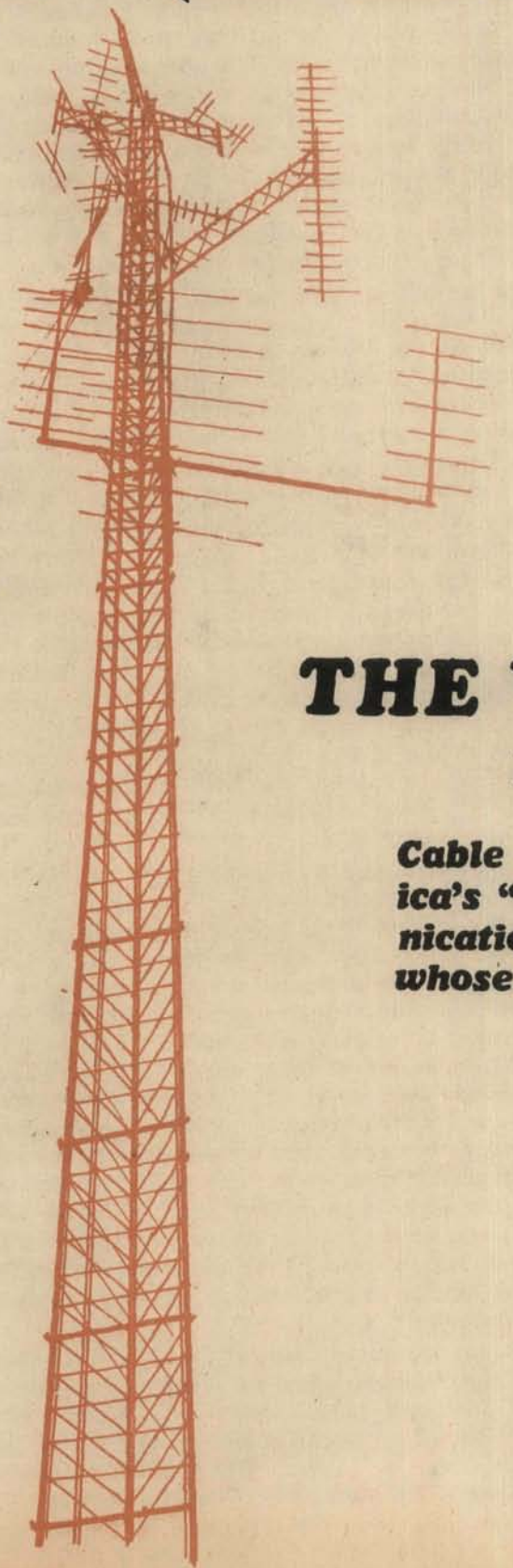

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THE WIRED NATION

RALPH LEE SMITH

Cable TV is about to become America's "National Highway" of communications. Who will run it, under whose supervision, for whose benefit?

A SPECIAL ISSUE

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LETTERS

U.S. Virgins

Silver Spring, Md.

DEAR SIRS: Peter Nabokov's article on alien workers in the U.S. Virgin Islands [*The Nation*, Mar. 23], though generally correct, contains several errors and questionable conclusions. Since he refers to and uses studies produced by this firm, we think the record ought to be clarified.

He says that "last year" there were "roughly 16,000 aliens at work" and "perhaps a fourth" were illegal. This is incorrect. There were about 16,000 *legal* aliens, and no one really knows how many illegal aliens; we estimate 4,000 or more. He is also incorrect about the income tax paid by aliens. At one time, they were charged 30 per cent (he says "upward"). They now pay the standard rate for single persons—on the assumption that all are single. We pointed this out in a revised edition of one of our reports which Mr. Nabokov used. . . .

There are other errors in fact in his article, but most serious are his misunderstandings of the overall climate and who is responsible for the plight of aliens. He misses the essential and basic point: the alien problem is a federal problem. . . .

It will take more than the "vociferous handful of Virgin Islanders, particularly second-generation aliens" (I don't know who these people are), Roy Innis (who, insofar as I can judge seems more hung up on white-black relations), or the College of the Virgin Islands students in Mr. Nabokov's class to change the situation in the Virgin Islands. The federal government must take action. . . .

John W. McCollum, President
Educational Research and Development, Inc.

Chapmaniana

College Park, Md.

DEAR SIRS: While surveying the wide range of Chapman comment from Edmund Wilson (1929) and M. A. DeWolfe Howe (1937) down to the present, Carey McWilliams' otherwise thorough review of *The Collected Works of John Jay Chapman* [*The Nation*, Apr. 13] makes no reference to my colleague Richard B. Hovey's *John Jay Chapman: An American Mind* (1959). Generally considered the most important study of Chapman's thought and art, Hovey's book is also the "definitive" biography.

Don W. Kleine, University of Maryland

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THE NATION

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EDITORIALS

The Politics of Manslaughter

Article II of the Bill of Rights lays down the principle that a "well-regulated militia" is necessary to the security of a "free State." The murders at Kent State University prove—not that proof was needed—that Ohio does not have a "well-regulated" militia. Since most, if not all, of the states are in the same case, it is of utmost importance that the National Guard, which serves as the militia of the individual states, should be thoroughly evaluated in the light of the tragedy at Kent State, the deteriorating countrywide political situation, and the further mass murders that may be engendered by the climate of violence being cultivated by Nixon, Agnew, Mitchell, Reagan and other politicians of similar views and character.

Arnold Sagalyn, who directed the study of police and military violence for the Kerner commission, says that "incidents" such as the one at Kent State "can happen again and again, given the nature of the National Guard, the nature of their weapons and their training." The statements of the commander of the Ohio National Guard, Adjutant General Sylvester Del Corso, and the commanding officer at the scene of the murders, Brig. Gen. Robert Canterbury, leave little doubt that Mr. Sagalyn's prediction is all too sound.

The murders occurred on May 4. Two days earlier, Del Corso had issued a statement that sniper fire would be met by gunfire from his men. After the massacre, Del Corso and his subordinates declared that sniper fire had triggered the fusillade. Unable to explain why the troops fired promiscuously into the crowd, he admitted that he had no evidence of sniping. The commander of the Ohio Highway Patrol Unit denied statements by Guard officers that his men, circling overhead in a helicopter, had seen a sniper on a roof.

So the buck was passed to Canterbury. He said that the argument as to the reality of a sniper was not important. "In any situation, whether in combat or anything else, the decision to use a weapon must be reserved to the individual." He seems to be putting troops confronting civilians in the category with the armed householder who finds a burglar in his living room. But if the decision to shoot is left to the individual Guardsman, then we do not have a military body intent on maintaining public order but a mob armed with M-1 rifles opposing a mob armed with rocks and bottles. Sooner or later, the outcome will be on the pattern set at Kent State, where the pseudo-soldiers of the Ohio National Guard killed two young men and two young women, one of the men being second in his Reserve Officers Training Corps class, and none of the four being hippies, revolutionists or anything but law-abiding youngsters.

The news of the tragedy had hardly reached Washington when the President issued an avertive statement. A few days previously, he had referred to students who resorted to disorderly conduct in their protests against the Indo-Chinese war as "bums." When 250,000 citizens, largely students, demonstrated in the most orderly fashion a few blocks from the White House last November, Mr.

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Nixon was watching a football game on TV. When some young people, not connected with the demonstration at the Washington Monument, went on a rampage afterwards, Attorney General Mitchell coupled the small disorderly demonstration with the big orderly one. After the Kent murders, the President deplored the deaths but, by clear implication, laid the blame on the students who had resorted to violence. There are many kinds of violence—Governor Reagan, who on April 8 had said that "if it takes a bloodbath" to end campus violence, "let's get it over with, no more appeasement," has hastened to assure critics that "bloodbath" was a figure of speech.

Mr. Nixon is laboring under a serious delusion if he thinks that his TV sermonizing and attitudinizing will enable him to prolong and enlarge the Vietnamese War indefinitely. He and his colleagues, and the right-wing state politicians, are consciously furthering the polarization of the country, in the hope that this will prove to their political advantage. They think they can remain in power by exploiting the ignorance and bellicosity of a section of the population. If they are right, they must expect to turn their regime into a native form of fascism. But there is at least an equal chance that the American people will recoil from that prospect. Opinion shifts by degrees, attitudes change imperceptibly, then, suddenly, under the impact of major events, masses of people change their broad assessments. A young man at Yale said, "A couple of weeks ago I *crossed over*. . . . I got the feeling that the whole world was insane." The indiscipline of the Guardsmen at Kent State, the stupidity and indifference of their officers, will provoke crossing over on a mass scale.

The Hickel Letter

Secretary Hickel cannot understand how his letter to the President, intended as a private communication, became the stuff of which headlines are made. But he must know that the finger points directly at the White House. No doubt the President was miffed by the references to his failure to call Cabinet meetings, but he may well have welcomed the chance to advise Vice President Agnew that he modify his rhetoric, lower his profile, and speak less frequently. Poor "Wally" was really driven to write the President; he has seen him only twice in the last fifteen months. Release of the letter may mean, also, that Mr. Nixon has finally discovered college youth as a constituency. Other signs point in this direction. Six students from Kent State were invited in to see the President, who has ordered an investigation of the murders, and there are reports that the demonstrators who will assemble in Washington after this issue goes to press will be treated in a conciliatory manner. Even if the President has finally decided to see and listen to those bums," his relations with them will probably not improve—the decision comes too late and is much too palpable. But it will be a triumph for the students, who will have finally broken through the 2,000 or more Washington police, the augmented army of Secret Service agents, and the greatly expanded White House staff that the President uses to safeguard his musings and meditations and to preserve his isolation—even from the Cabinet.

What Happened?

Just ten days intervened between the President's speech announcing the withdrawal of 150,000 troops from Vietnam within a year, and his announcement (after the fact) that he had ordered the invasion of Cambodia. The second broadcast represented an erratic and irrational shift of position. In his campaign speeches, and since he took office, Mr. Nixon has been trying to convince us that he is bent on extricating the country, and himself, from the Vietnamese morass. What possible sense could it make to widen the involvement that had proved politically fatal to his predecessor?

For a certainty, something happened. For another certainty, whatever happened was internal—within the Administration. Mr. Nixon was not under domestic political pressure to act. He had apparently defused the student opposition and the professional political opposition was inert. If he wished to keep the domestic situation quiescent, enlarging the war was no way to do it. If one has tranquilized the hornets, one does not thrust a shovel into the nest.

That something occurred in those ten days to impel Mr. Nixon to change course is widely suspected, but none of the explanations offered sounds convincing. It is said, for example, that he was reacting to events in the Middle East, in particular to Soviet pilots flying defensive missions in Egypt. A more inappropriate response than heating up the war in Indo-China can hardly be imagined. As a military act it could be rated only a gamble, and one which, even if successful, could hardly deter the Russians from doing whatever they pleased on the other side of the world.

Moreover, it still must be explained why the President acted with such haste and justified his action with such transparent duplicity. He did not move with the deliberation appropriate to grave decisions—he gave a sudden lurch, like a vehicle out of control. What could cause such strange behavior in a President who supposedly consults all the oracles and then ponders long before moving?

In the absence of facts, everyone is free to write his own scenario. Here is ours:

The withdrawal speech was in a sense a double-cross of the military. There was only a pretense of consultation, and some very high personages in uniform were caught by surprise. Mr. Nixon did make one concession —he gave no timetable—but the military right along have viewed Vietnamization as dangerous, for reasons that have also been pointed out in the Senate: the quality of most of the Vietnamese divisions remains dubious, and a progressive reduction of American forces would tend to endanger those who remained.

It would be plausible for the generals to tell the President that they could not take further responsibility unless the withdrawals were balanced by permission to clean out the sanctuaries. They have wanted to do that during the years in which the sanctuaries have been tolerated, and the overthrow of Sihanouk has made it politically possible. By acceding to this demand, Mr. Nixon could get himself out of the trap. If Vietnamization was going badly, the generals could hold out the prospect of a quick fix by extending the war across the border. And who gave

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this supposedly limited operation the code name, "Total Victory"?

But this comes down to saying that the military are running the show, and that all the talk about the President being Commander in Chief of the armed forces is window dressing. The current complaint is that the Presidency has acquired excessive power. So it has, and yet with the single exception of Mr. Eisenhower, one President after another has, on Asian policy, been the prisoner of the Pentagon. President Truman stood up to General MacArthur, but only when MacArthur's egotism became openly intolerable. Otherwise the picture is one of Presidential, as well as Congressional, yielding of the war-making power to the military.

If there is anything in this view, then Congressional efforts to restore sanity to American foreign policy must embrace much more than an attempt to curb the power of the President. It must exert the Congressional power of the purse to cut the military commanders, and their confreres in the military-industrial complex, down to size.

The Incompetent Opposition

A major reason why the sane public—the part of the general population that has retained its good sense and human decency—has been unable to assert itself is that it awaits opposition leadership, and none is forthcoming.

The sane public has its representatives in both Houses of the Congress, and in both parties. It must be emphasized, however, that the Democrats have a special responsibility for what happens in Vietnam, Laos and Cambodia. It is their war, historically.

Their former President, Lyndon B. Johnson, supports Nixon. Their titular leader, Hubert H. Humphrey, privately greets the extension of the war as a stick with which to beat the GOP, while in public he hopes piously that the President will succeed. The new National Committee chairman, Lawrence O'Brien, for all his political capability, appears tongue-tied. At the incursion into Cambodia he could and should have immediately summoned the national policy committee into session.

Individuals in the role of leaders—Muskie, Kennedy, et al—have made speeches, but none of them by himself has the punch to marshal the opposition, to move it to action. And—this is no time for politeness—Sen. J. W. Fulbright is a disappointment. There is not a finer man in public life. *The Nation* has expressed unstinted admiration for him over the years, but in this crisis we must also speak of his weaknesses. He seems to have been born without political reflexes, or they have atrophied with time. The failure of the Senate Foreign Relations Committee to sense what Secretary Rogers was telling them, to seize on what he said and wring from him an explanation, is merely one more mark of the committee's failure to lead. It is constantly in the headlines, and constantly ineffectual.

What is desperately needed is sharp, independent political action. It does not need to be third-party action, but it must be independent. In that role it might force the opposition to shape up, to act like an opposition.

Outside the formal Democratic Party there are some promising elements. Ramsey Clark is developing in the most admirable and encouraging way. There are many distinguished Americans, such as Kingman Brewster, who are providing better leadership than the Democratic Party, as such, has so far been able to offer.

Unless he is unhorsed by the campus revolt, Mr. Nixon has wangled himself a year in which to make good on his promise to withdraw an additional 150,000 troops. He has until about midsummer to see whether his Cambodia gamble will pay off. Even if it yields nothing, it will not necessarily boomerang on him. He can plead that he took the military's advice. It is folly to wait for his schemes to evaporate. He has, in effect, said that Vietnamization is down the drain, he has extended the war, he has ignored (and conned) the Congress. He is wide open to attack, but no one seems able to lay a blow on him.

Of course, the Senate should repeal the Gulf of Tonkin resolution and take whatever action along this line may seem appropriate. Of course, concerned citizens should telegraph and lobby and give no rest to their Congressmen or the President. But it would be much more effective if that "pitiful, helpless giant," the Democratic Party, could be made to act like a forceful opposition.

There need be no fear of making the war a partisan issue. Quite a few Republicans oppose it. Does anyone believe that they will cease their opposition if the Democrats come alive? Lindsay, Goodell, Hatfield, Percy, Cooper and the others are not cheap opportunists.

The war has been taken over; it is a "new" war, as *Time* says, a Nixon war. Thus, since Nixon is a Republican, who will oppose it if the Democrats do not? Do they want a third party to be formed? What is the meaning of a two-party system if an issue that deeply divides the entire nation cannot find a clear-cut expression? And, to come down to personalities again, what is the meaning of a two-party system when the former best hope of the Democrats seems to have withdrawn to the side lines? We esteem Eugene McCarthy, but is this the time for a man on whom so many staked their hopes to be engaged in poetry readings?

The moment is crucial. The pickets and demonstrators in Washington should not waste their time on the White House. Let them seek out the headquarters of the Democratic National Committee and convince that group that they must act like the opposition they purport to be.

The Returns

There can be little doubt that Robert Taft, Jr., enjoys an edge in any rational rating over Gov. James A. Rhodes, whom he defeated in the Republican Senatorial primary. [See "The Decline of Ohio" by David Hess, *The Nation*, April 13.] On balance, too, Howard M. Metzenbaum deserves preference—on grounds of experience, ability and sustained interest in public affairs—over John Glenn. He is not as photogenic or as glamorous as Glenn, but in this instance money, lots of it, offset the recognition factor in the Democratic primary. The best news from Ohio, however, is that John Gilligan will be the Democratic nominee for governor. Metzenbaum and Gilligan have a good chance to defeat Taft and Roger W. Cloud, the Republican nominee for governor, in November. Cloud, it should be noted, is a moderate, and he soundly

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defeated Rep. Donald E. ("Buz") Lukens, a reactionary right-wing Republican. Also a few candles should be lit to mark the Democratic primary race in which Rep. Michael A. Feighan failed to win renomination for the seat he has held for fifteen years. He will not be missed.

In Alabama, Governor Brewer's strong showing suggests that he will win the run-off election on June 2. The news from Alabama is that the George Wallace brand of demagogy has lost some of its potency there. If Wallace loses the run-off, which seems likely, it will not follow that the threat of a third-party candidacy in the South will have been eliminated. There are other possible candidates and Wallace himself might decide to make a stab at it. The elimination of Wallace might mean, however, that President Nixon would feel free to pay less attention to the demands of the South.

In Texas, the defeat of Sen. Ralph Yarborough was disappointing, but George Bush, the Republican nominee, is by no means certain to win in November. On the contrary, Lloyd N. Bentsen, Jr., the Democratic nominee who beat Yarborough, has a fine organization, truckloads of money (he spent more than $2 million in the primary), and the momentum of his primary victory should get his campaign against Bush off to a good start. He is as conservative as Bush, perhaps more conservative, but it is important that the Democrats hold this seat if they can. Surprisingly, Senator Yarborough failed to carry east Texas and did poorly in the Gulf communities, where the labor vote is strong. His local managers kept assuring the Senator that all was well, but managed to siphon off more and more money from his campaign for the use of local candidates. Senator Yarborough is a Populist, one of the last; he was usually right on economic issues, but otherwise capable of eccentric voting. He will live in all our memories, if only for his "Shame on You, George Wallace!" speech after Selma. He was the only Southern politician to oppose Wallace in public.

Who Runs the House?

Though the House of Representatives shows increasing determination to watch the military budget closely, it still has a long way to go before it establishes anything close to responsible control of that part of the nation's purse. This year's action has started on the 1971 military authorization bill, which contains $20 billion for procurement and research. The Rules Committee refused Congressman Don Fraser's requests for recorded votes on amendments and extended debate, and it limited discussion to four hours. At that rate, the House must consider expenditures at the rate of $5 billion an hour, $83.3 million a minute, and $1.4 million a *second*.

Consider what else might be done with the money so quickly spent: in only five minutes of debate, we could increase the allotments for every family on welfare by $100; in three minutes we could equal the amount spent on all nonmilitary housing programs; with the money covered in one minute we could construct vocational schools for 45,000 students; and, finally, in one second the House "debates" away enough money to construct two public health centers capable of serving 50,000 to 100,000 people each.

Considering that it took about eight months to pass the HEW appropriations, the passage of the multibillion-dollar military bill in about 1/500th of the time is a disgrace to the Hill. The only thing to be said for it is tradition: it has happened before.

Three Friends

Richard Neutra, William T. Evjue and Anna Louise Strong lived long and useful lives; at their deaths, they were 78, 87 and 84 years old. Others will write of their professional achievements, Neutra as an architect-planner, Evjue as a publisher-editor (of the Madison *Capital Times*), and Anna Louise Strong as a correspondent who spent years of her life in Russia and in China, where she died. I remember them as friends.

I knew Neutra in his early days in Los Angeles. I valued him as a most delightful friend and neighbor. In the face of massive impositions, his good nature seemed to be unflagging. He was interested in everything. His first years in Los Angeles were anything but bountiful, but he kept at his work even when he had few clients. His fame spread quickly, however, and soon he was visited by a procession of young architects from all over the world who sought the privilege of working and studying with him. And his home became a goal for distinguished visitors of all kinds. He had a keen interest in social issues and made the rounds of the discussion clubs, enchanting audiences who were never quite sure they understood him.

William T. Evjue was a tough-minded, courageous editor-publisher in the muckraking tradition. He was one of the first editors to tangle with Sen. Joe McCarthy and he kept up the attack. He was an ecologist decades before the current fad. At times I had the impression that he had personally saved every tree in Madison, Wis. Outwardly gruff and testy, he had a core of tenderness and warm feeling for his friends.

From the days of the general strike in Seattle, Anna Louise carried a vision of the world redeemed by revolution. Her courage and indomitable spirit were wholly admirable. Late in life she was flown into Tibet on a stretcher—as a reporter—because no pressurized cabins were available. Frequently the vision got in the way of her factual perception. One night, in the first months of the new administration of Gov. Culbert L. Olson, I drove her to Sacramento from San Francisco so that she might interview me as a member of the administration. En route I tried to convince her that what we represented was not a radical Popular Front but was rather a belated—actually an anti-climactic—attempt to bring the New Deal to California. But she brushed my strictures aside and reported the new administration as she wanted it to be. There was no intent to deceive or misrepresent; she was honestly reporting her vision of what was then happening in California. She was cruelly ousted by the Soviets in 1949, during the Stalin purge, but was later cleared of charges of having been a "spy." A less likely "spy" I never met. One did not need to share Anna Louise Strong's vision of the world redeemed by revolutionary heroism to admire her magnificent spirit and courage.

C. McW.

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THE WIRED NATION

RALPH LEE SMITH
Mr. Smith, the author of seven books in the fields of national and international affairs, specializes in consumer problems and communications. He is currently working on a Ph.D at Columbia University on the history of public regulation of the cable television industry. This article was prepared under a grant from the Fund for Investigative Journalism.

Last summer I asked a high-ranking aide to one of the seven Federal Communications Commissioners: "What do you think the Commission should be doing about cable TV?" He sighed and waved his hand. "I don't know what we should be doing. If you get any ideas, let me know!" I gathered that the Commissioner is in the same quandary.

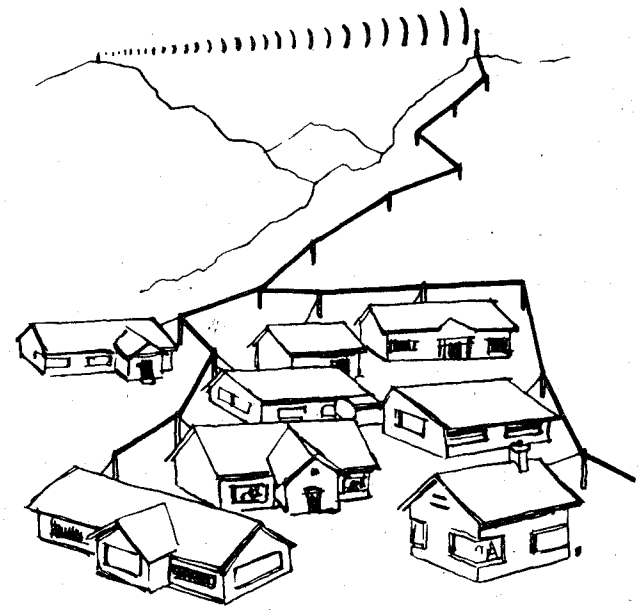
Cable television, often called CATV (community antenna television), began as a minor adjunct to the present system of over-the-air commercial broadcasting. Now it is on the verge of becoming a major communications medium in its own right. As cable systems are installed in major U.S. cities and metropolitan areas, the stage is being set for a communications revolution—a revolution that some experts call "The Wired Nation." In addition to the telephone and to the radio and television programs now available, there can come into homes and into business places audio, video and facsimile transmissions that will provide newspapers, mail service, banking and shopping facilities, data from libraries and other storage centers, school curricula and other forms of information too numerous to specify. In short, every home and office will contain a communications center of a breadth and flexibility to influence every aspect of private and community life.

But despite the importance and imminence of this new force in society, its possibilities and problems are almost unknown to the public. Few local, state or national legislators are better off. Even members of the Federal Communications Commission and of state and municipal regulatory bodies are not sure what their agencies should do. The problem is made more difficult by the fact that much of the information on cable television that government bodies and the public do receive, comes from sources that have their own interests to serve. It seems, therefore, that a basic primer on cable TV would be of value to both legislators and the public, and it is hoped that this article will serve as such a handbook.

WHAT IS CABLE TELEVISION?

Cable television, or CATV, is a system whereby the set owner receives his signals through a coaxial cable instead of over the air. Persons who wish to enjoy the service pay an installation charge to have their set hooked to the cable, and a monthly service charge.

If it is true, as it seems to be, that cable TV is about to effect a revolution in communications, it must be said that a revolution has rarely been created by persons of less revolutionary intent. The original purpose, and still the principal function, of CATV is to provide the viewer with better reception and a larger selection of existing TV stations than he can get from the air.



Cable TV was invented and developed by TV servicemen in small towns and rural areas, where reception is poor or nonexistent, and where in any case very few channels are on the air. The Federal Communications Commission has never required broadcasters to set up relay systems to provide adequate TV service to the substantial portions of the nation that it does not suit the commercial interests of the industry to serve.

To remedy this situation, Robert J. Tarlton of Lansford, Pa., twenty years ago set up the world's first commercial cable TV system. Born in Lansford in 1914, Tarlton graduated from high school in 1933 and opened a radio sales and service shop. During World War II he served as an enlisted communications technician in Italy, then returned to his shop.

When TV sets became commercially available in the late 1940s, Tarlton had trouble selling them because reception in Lansford was abominable. The nearest stations were in Philadelphia, 65 miles away, the signals reaching Lansford were very weak, and further blocked by a mountain that overshadows the town. Tarlton experimented in 1949 with installing individual antennas for set owners on the mountain. That worked fairly well, and Tarlton quickly got a better idea. It was, however, beyond his ability to finance, so he and several friends pooled their resources and set up a firm called Panther Valley Television Company.

Panther Valley built a tall master antenna atop the mountain, to spear the faint Philadelphia signals. These were fed into an amplifier to bring them back to full strength, and then into a coaxial cable that was strung on poles down the mountainside and into town. The company offered to hook customers up to the cable for an installation charge of $125 and a monthly service

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charge of $3. Television-hungry residents of Lansford immediately began buying sets from Tarlton's shop and "going on the cable." They received three Philadelphia channels with greater fidelity and clarity than did a lot of people living within 10 miles of Philadelphia—or even in the city itself.

Today, with its system modernized and rebuilt, Panther Valley Television provides twelve channels to 2,900 residents of the Pennsylvania hill towns of Lansford, Coaldale, Havto and Lake Havto, who would otherwise have little or no TV. Tarlton remains president of the company, and also of Titusville Cable TV in Titusville, Pa. He has an assured niche in history, in the special catalogue of persons who, without intending to, Really Started Something.

A modern cable system is simply a more sophisticated version of Tarlton's original rig. A tower is constructed on a hill or other spot selected for good reception. The antenna system on the tower is carefully engineered, usually with a separate antenna for each channel that is to be received. In some instances, distant signals come to the tower by a relay system of one or more microwave transmitters.

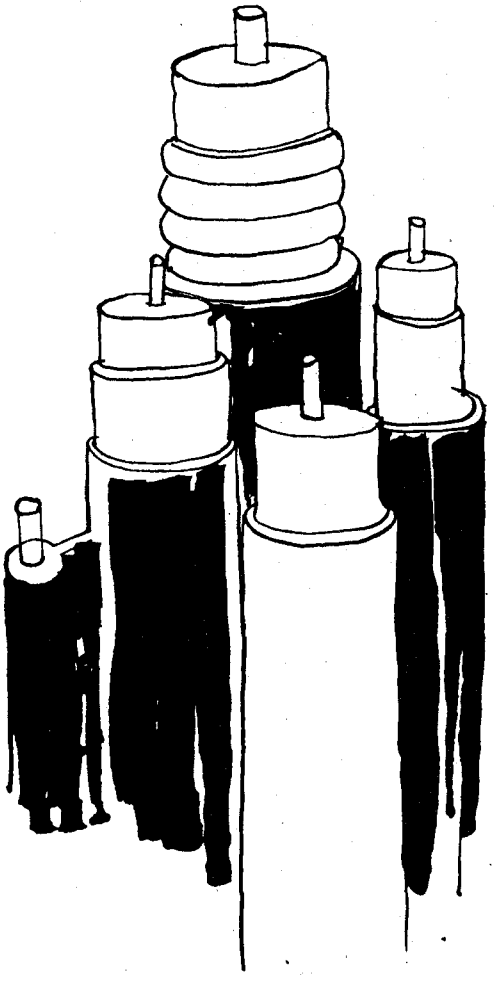
At the foot of the tower is a small control station, called the "headend," where the signals are brought up to maximum strength and clarity. Here, also, some of the signals may be rechanneled. It is customary, for example, for cable systems to put UHF stations on empty VHF channels. Amplifiers placed at distances of 1,500 to 2,000 feet along the trunk line into town keep the signals strong. From the main cable, feeder lines, "tapoffs," and "housedrops" carry the signals to individual streets and the subscribers' homes. These days, the installation fee usually runs from $10 to $20, and the monthly service charge is about $5.

Cable TV has proved to be immensely popular. By last June, 2,321 systems were operating in the United States, with another 2,003 under construction. An additional 2,370 applications for franchises were pending before the city fathers of some 1,300 cities, towns and communities. In recent years the number of subscribers has grown at a rate of 20 to 25 per cent annually, and the systems now serve 12 million people—about 6 per cent of the population. Investment in CATV plants exceeds $500 million and is soaring; estimated annual revenues of the industry are in excess of $300 million and also rising fast.

In the first stage of the CATV boom, most of the activity has been in those cities, towns and communities that do not qualify as heavily concentrated markets, and which have therefore not been regarded by the FCC or the broadcasters as deserving full TV service. About 46 per cent of the population lives in towns and cities ranging from 2,500 to 50,000 population, and few of these communities have their own TV stations. Today, many such communities get more and better TV than do residents of major market areas. Towns in northern Vermont receive New York City channels more clearly than many residents of the five boroughs, whose reception can be fogged and snowed by tall buildings. In Aspen, Colo., residents could receive only one channel before the cable arrived. Now they get all three major networks plus an independent station and a channel of educational TV. Fort Madison, Ia., gets seven channels plus weather information on an eighth and a view of an AP wire service ticker on a ninth. Bradford, Pa., which formerly considered itself lucky to receive one channel, now gets eleven.

Most cable systems are still small, the average setup having about 1,500 subscribers, and the largest, in San Diego, having 28,325. Restrictive policies of the Federal Communications Commission, developed in response to urgent requests from the broadcasting industry, have retarded the growth of CATV systems in metropolitan areas. Nevertheless, cable installations are now coming to heavily populated urban centers, and it is here that the next big growth stage for CATV will occur. Irving Kahn, President of TelePrompter Corporation, one of two companies franchised to build cable systems in Manhattan, predicts that within ten years 85 per cent of TV reception in the United States will be by cable.

Clear reception and a wide selection of stations are of course desirable, and the success of cable TV shows how badly they are wanted. But the excitement about the Wired Nation is not being generated by these present major uses alone. "Cable television," says a report issued in 1968 by Mayor Lindsay's Advisory Task Force on CATV and Telecommunications in New York City, "offers the most promising solution to a



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number of difficult communications problems facing our larger cities." The Task Force is referring to *potential* uses to which the cable can be put. To understand them, one must look first at the star performer in this drama—the cable itself.

A coaxial cable consists of three elements. In the center, like the lead in a pencil, runs a copper wire. This is surrounded by an insulating layer of polyethylene foam, which accounts for the major portion of the diameter of the cable in cross section. The insulation, in turn, is surrounded by a tubular shield of braided copper wire or a seamless aluminum sheath.

When a current or signal is introduced into the cable, an electromagnetic interaction takes place between the center wire and the surrounding sheath. The interaction prevents currents from radiating off the cable. This is the secret of the cable's key characteristic—its immense capacity for carrying electronic signals, data and information. Comparing a coaxial cable to a telephone wire, says FCC Commissioner Nicholas Johnson, is like "comparing Niagara Falls to a garden hose." As we shall see, the phone company is very much aware of the comparison.

Television is a colossal hog of the electronic frequencies. The elbowroom required by each channel is what makes the over-the-air very high frequency (VHF) TV spectrum the scarcest of our natural resources. No more than twelve channels can be carved out of this choicest part of the TV transmission spectrum. When additional allowance is made to avoid overlapping and interference, and for the further restrictions imposed by the economics of a commercially based broadcasting system, it works out that 75 per cent of all American viewers get no more than three or four channels.

One of cable TV's great potentials is its inherent ability to end this economy of scarcity, on which the power of the present TV broadcasting oligarchy is solidly based. Many new CATV rigs are being built for twenty-channel reception, and San Jose, Calif., is installing one of forty-two-channel capacity. Experts believe that the cable could carry as many as eighty channels with present technology. If more were ever needed, they could probably be tacked on by using more sophisticated input equipment.

In addition to opening up as many channels for TV broadcasting as any community could possibly use, cable TV greatly facilitates more diversified use of television by cutting the cost of transmission. A year ago, President Nixon, under sharp prodding from Rep. Torbert H. Macdonald (D., Mass.), chairman of the House Commerce Committee's Subcommittee on Communications, finally released the text of a Johnson administration Task Force report on national communications policy. Among other things, the report concluded that money, even more than lack of space on the spectrum, was a major barrier to the expanded use of TV. The cost of building and running over-the-air transmitters, and programming costs, which are rising at a rate of about 8 per cent annually, make any expansion of the present system almost prohibitively costly.

In a CATV system, it is possible to transmit directly over the cable without receiving any signal from the air. Some cable systems already do this on one or more empty channels; they call it "cablecasting" or "program origination." This eliminates the high cost of building and running an over-the-air transmitter. In addition, while a commercial over-the-air broadcaster derives his entire revenues from his programming, a cable system does not make its money on what it transmits. The cable runs on the profit from the subscribers' fees, whether or not the system is used for cablecasting.

Together, then, the elimination of channel scarcity and the sharp reduction of broadcasting cost, can break the hold on the nation's television fare now exercised by a small commercial oligarchy. Television can become far more flexible, far more democratic, far more diversified in content, and far more responsive to the full range of pressing needs in today's cities, neighborhoods, towns and communities.

A second area of great promise was made vivid by an exhibit at the 1968 Annual Convention of the National Cable Television Association. It displayed a home communications center, in which the user, through appropriate switching circuits, could enter into two-way exchanges with local stores, could "dial-a-play," and could have at his finger tips the full information contained in vast libraries. This is no dream. The cable could carry it all, and the technology is in existence or soon will be.

Looking a bit farther into the future, it may be that we are heading toward a single, unified system of electronic communications. "Before very long," says Brenda Maddox in a booklet entitled "Communications: The Next Revolution," issued by the London *Economist*, "information theory will have been brought to its logical conclusion in public communications; there will be a single unified network for all kinds of messages . . . separate systems for telephones, telegraph, television and data transmission will disappear. Information will flow through the network as on-off digital signals and appear as pictures, sound or print, according to the choice of those sending and receiving it." The speed with which such a network could rattle off bundles of information is hard to appreciate. "Information," says AT&T's W. M. Ellinghaus, "can now be moved at the rate of 1.5 million words per minute. *Gone With the Wind* can be transmitted in about twenty seconds. The Bible would take a little longer—about half a minute."

LOCAL TELEVISION SERVICE

In the early years, cable TV operators did not originate any programming over their own wires. In time, however, to make the service more attractive, systems began filling one or more empty channels on their viewers' sets with such simple fare as weather reports, stock market quotations, and views of an AP or UPI news ticker. Such "programming" costs little, and is easily provided by even a very small system. Soon, a few systems went a step farther—they began to transmit live local material. Today, 5 to 10 per cent of cable systems offer live programming of local origin, usually transmitted for a few

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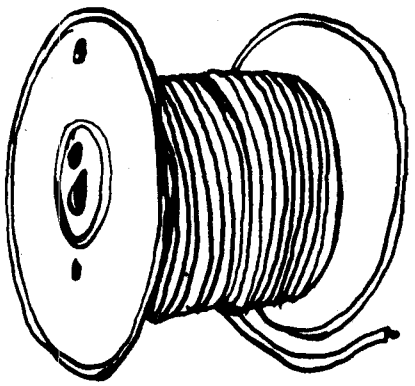


hours a day, or irregularly when events of interest take place. These include newscasts, religious programs, school activities, county fairs, fund-raising drives, sports, cultural events, political debates, public hearings, school board meetings, children's programs, and daily variety shows featuring local persons and events.

In southwestern Massachusetts, High Fidelity Cable Television of Great Barrington serves some 2,800 subscribers in Great Barrington, Stockbridge, Lee, and Lenox. Without the cable, many viewers in this area can get only one faint signal, from a VHF station in Schenectady. The cable brings in eleven VHF, UHF and educational stations from Hartford, New Britain, Springfield, Albany, Schenectady, New Haven and New York City.

None of this, however, provides the subscribers in the four towns with coverage of their own communities. The cable system has therefore hired a full-time news director, who broadcasts two local news roundups, complete with video-tape clips, at 6:15 and 11:15 each evening. Special events such as political campaigns and school activities are covered as they occur. Community interest is high; in Great Barrington, 95 per cent of homes within reach of the cable subscribe to it. "We are an entirely new news medium in the southern Berkshires," says John Mooney, the system's general manager.

This local initiative emphasizes a second basic shortcoming in the present system of over-the-air broadcasting. In addition to discriminating against the large percentage of the population beyond the clear signal range of a few major metropolitan centers, it has not been able to offer real community service. When over-the-air broadcasters say that they provide community or local signal, they mean that they send out a highly generalized service to a large, poorly defined audience.

The precise coverage of a cable TV system makes it the logical medium for solving the problem of local television service. "This potential," said FCC Commissioner Kenneth A. Cox in a 1968 speech to the National Association of Broadcasters, "excites a good many social scientists, who envisage every little town having its own outlet for local self-expression, even though it is far too small to support a regular broadcast station in the foreseeable future. Indeed, these people believe that a cable system in metropolitan Washington or in New York City would be able to provide pinpointed service to subcommunities within the larger complex, either by franchising several operations along political or ethnic or by other relevant lines, or by equipping an overall system with switching or filtering devices to enable the operator to deliver certain programming only to those areas likely to be interested in it."

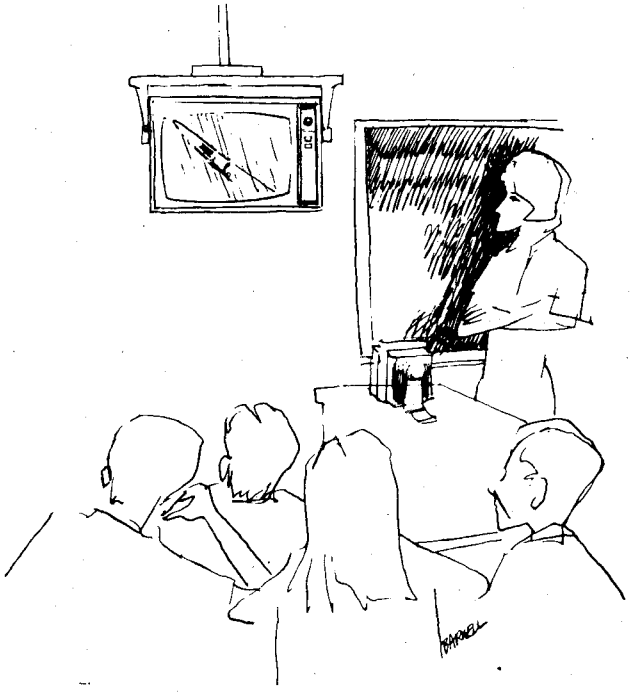
Most CATV systems provide free or at-cost service to schools and municipal offices. Trenton, N.J., made this a requirement for the franchise. In Caspar, Wyo., the system shares its facilities and studio with the school district. Scheduled course material and films are transmitted directly to TV sets in the classrooms. In summer, review courses can be seen at home by students needing remedial instruction. The school system plans to add a high school news program, a teen discussion forum, a disc jockey show, and a job and career information program for young people.

Similar arrangements have been worked out between the cable system and the school system in Grand Junction, Colo. The schools there and the cable operator are also investigating the use of a sub-channel on the cable for selective communication among schools, teachers and students, by means of a two-way switching system.

Some towns and cities have adopted a switching system that permits a local municipal authority to cut into all channels to broadcast emergency alerts. In Liberal, Kan., the device is used to warn citizens of tornadoes, and to broadcast descriptions of lost children.

Cable systems are also being used to improve the efficiency of police work. In Olean, N.Y., the cable operator recently installed a monitoring system for the police department. Through a series of strategically placed cameras, 75 per cent of the city's downtown area can be kept in view by a single police officer at headquarters. In addition to serving as a crime-prevention device, the hookup makes it possible to oversee traffic conditions, and to respond quickly to an accident or to unusual congestion. The cost to the city is about $6,500 a year, less than the salary of a single patrolman.

Such applications are only a bare beginning of the cable's potential. For example, six TV channels can be



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carved out of the electromagnetic spectrum at wave lengths below channel 2. These channels are not used for over-the-air broadcasting because they have inferior carrying qualities, but they can be carried on the cable with no significant loss of signal strength or clarity.

Similarly, there is a gap between channels 6 and 7 on standard receivers, big enough to accommodate nine TV channels.* Some or all of these channels could be devoted to municipal use. One or more of them could be programmed by the city's health and social service departments, and a special channel could perhaps be used by these departments to serve low-income areas. Community groups, and local talent and culture, could also find expression over the cable's facilities. There is enough channel capacity available in the cable to provide ample room for all the fare that they could possibly wish to present.

The cable could affect the cultural content of TV in other ways. Large budgets for national production of over-the-air public television, while a valuable and important expansion of the uses of TV, may not be the real key to opening up the medium's full artistic and cultural potential. The advocates of public television, says Leonard Chazen, an assistant professor of law at Rutgers and a consultant to President Johnson's Task Force on Communications Policy, "believe in an identifiable commodity known as 'good programming' that can safely be entrusted to a single well-motivated organization. But with all we have learned about the elusiveness of artistic standards, can we really be convinced that centralized decision making, as represented by a public network, is the way to make television come alive? Certainly this is not the answer suggested by experience in other communications media, and in particular, the movies." University-based audiences, low-budget filming methods, and the proliferation of independent producers, distributors and backers, all gave the creative script writer and film maker somewhere to turn besides the few Hollywood giants. The proliferation of outlets and reduction of costs inherent in cable TV, says Chazen, could have a similarly creative effect.

In depressed areas and ghetto neighborhoods, cable TV could perform functions of special importance. For example, in a report on the Watts riots, the RAND Corporation recommended that $750,000 be invested in a local, over-the-air commercial UHF facility for the community. But a cable system could provide Watts with far more precise coverage at lower cost. The same is true of other city neighborhoods that now live in anonymous invisibility until they are torn by riot.

Another local and community service potential of cable television is so important that it must be separately discussed. CATV could arrest and reverse some ominous developments in American electoral politics.

Air time, and most especially TV time, has become an indispensable part of the electoral process. In 1968, candidates spent $40 million on TV, and for this most of them received relatively little coverage. Full coverage would have cost most of them far more than their campaign chests could afford.

The indispensability of TV exposure, combined with its high cost, is probably the most important single factor in the rapidly increasing trend, for politics, at all levels, to become a game of the privileged, wealthy few. The cost is made even higher by the inexactness of over-the-air coverage. People living in the city see and hear radio and TV spots purchased by candidates in outlying suburban districts and communities. Only a fraction of those who will actually vote in the candidate's district are included in the metropolitan coverage, but he must pay for the station's entire audience.

Once the candidate is elected, another dimension of the problem becomes apparent. "It forces one to question whether government can ever realistically be expected to sustain a vigilant posture over an industry which controls the very access of government officials to the electorate," says FCC Commissioner Johnson. "The fact that roughly 60 per cent of all campaign expenses go to radio and television time gives but a glimmer of the power of broadcasting in the lives of Senators and Congressmen."

The power of the broadcast lobby probably explains the long-standing refusal of Congress even to look at the problem. But in September 1969 a bipartisan group of Congressmen and Senators, with the backing of the National Committee for an Effective Congress, proposed legislation that would require broadcast stations to provide a certain amount of time at reduced cost to political candidates. The bill is ludicrously timid: it applies only to U.S. Senators and Representatives, and mandates no free air time.

* The gap runs from 88 MHz to 174 MHz. The frequencies between 88 MHz and 108 MHz are used for the FM broadcast band. The 108-120 MHz band is for aircraft navigation, and must be kept clear of all radiation danger, even from the almost completely radiation-free cable. But this leaves the remainder of the "gap," from 120 to 174 MHz, which, for technical reasons, are avoided by over-the-air broadcasting, but can be used without difficulty by the cable.

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In October 1969 the Senate Commerce Subcommittee on Communications held hearings on the bill. All the witnesses favored it except the broadcasters, who were unanimously opposed. Subsequently, several of them voluntarily offered reduced rates to candidates. Having profited for years from the democratic process, the broadcasters hope that this strategic concession will forestall Congressional action which, even in its proposed mild form, would establish federal authority and could lead to more comprehensive legislation.

Other opponents of the bill are incumbent Congressmen and Senators with substantial independent wealth or financial backing, who prefer to give to potential challengers as little air time as possible.

No matter what happens to the present proposal, enactment of legislation requiring adequate amounts of free time to all political candidates, is obviously far in the future. And even such legislation would not alter two other problems of over-the-air broadcasting—that coverage bears no relationship to geography, and that most U.S. communities do not even have an over-the-air TV broadcasting facility. All three problems, however, can be successfully dealt with through community-based cable systems.

At the national level, cable TV was first used extensively in 1968. Each major party prepared a video tape, giving a full presentation of its Presidential candidate and his views. These tapes were played on 350 cable systems, with a potential audience of 4.5 million persons, on time donated by the cable operators.

THE COMING OF THE CABLE

That, then, is the broad picture of the Wired Nation. What follows are battle reports of the forces and interests that are already besieging it.

At least two parties have been watching the unfolding drama of the Wired Nation with more than detached interest. One is the present commercial broadcasting industry, whose own interests—and survival—are directly threatened. The other is the telephone company, whose relationship to cable TV and the communications revolution is problematic and complex. Both parties, however, have decided that the way to be sure that *they* have a voice in the shape of things to come is to own the physical plant on which the revolution will be based.

Moving swiftly and taking full advantage of the almost total lack of national policy on cable TV, they have been building or acquiring systems. More than half the cable systems in the United States now belong directly to the broadcasting industry or to the phone company. If the trend is not stopped, and reversed, the new technology will become a captive of old interests that have strong motives to abridge its potential.

CATV is therefore by its nature a monopoly and must secure franchises from local municipal governments. A scramble for franchises began as soon as the industry came into existence, and it continues to this day.

Five, ten, or more companies will often compete for the franchise in a community that promises a high percentage of potential cable subscribers, and big sums are being spent on lobbying and in legal battles. As CATV moves into increasingly large communities, says *TV Communications,* "franchise fights will become bloody and drawn out. . . . Cost of obtaining the CATV franchise for a major city may reach hundreds of thousands of dollars."

The companies are willing to make such expenditures because the prospects are, to put it mildly, intoxicating. In October 1968 the investment research firm of Drexel, Harriman, Ripley published a 32-page "Industry Report on Community Antenna Television (CATV)." It presents the hypothetical case of a system constructed in a community of 30,000 to 40,000 people, of whom about 10,000 might subscribe. There are assumed to be 100 homes per square mile. Such a community would require 100 miles of cable, at an installed cost of $4,000 per mile, or a total of $400,000. A good antenna and headend installation would cost about $75,000, and legal fees, promotional expenses and other costs would come to about $85,000. The total investment in the rig would therefore be $560,000. In the example the system is to be depreciated over ten years, and the cable operator has borrowed $400,000 of the required capital at 7.5 per cent interest.

When such a system has signed up 5,500 subscribers —55 per cent of the potential total in the community, which many systems meet or exceed—it will be producing, after all costs have been met, depreciation is accounted for, and interest and taxes are paid, an annual profit of $167,000. At that rate it would more than repay its total cost in less than four years. "A system operator might reasonably expect to achieve a pretax margin of 30 to 35 per cent," the study says coolly.

Still more money can be made by charging extra fees for extra services. "The addition of these services might conceivably mean a doubling or tripling of subscriber fees in time," says the report. Profits can also be increased by hiking the subscribers' basic monthly fee, and the report gives hints on how to get these raises past the local authorities.

If the operator ever got tired of this gold mine, he would have no trouble disposing of it. Such a system, says the report, often sells for $300 to $350 per subscriber, and the price can go as high as $400, $500 and even $700. If the hypothetical system were sold at $300 per subscriber, it would bring $1.6 million, almost three times its original cost. In practice, that often happens. The operator sets up a system, runs it for about five years while depreciating it rapidly, paying little or no taxes and pocketing hundreds of thousands of dollars. He sells it at an enormous profit to another person who is free to repeat the process.

Obviously, the correct procedure for city fathers in this situation is to stand guard over the citizens' pocketbooks. Given the competition for franchises, city governments could insist on reasonable subscription fees, put a liberal but definite ceiling on profits and capital gains, and require a large array of services. Unfortunately, things have gone just the other way. The fox and the watchdog have compared notes and discovered that they have parallel interests in the chickens. Says a 1969 statement on cable

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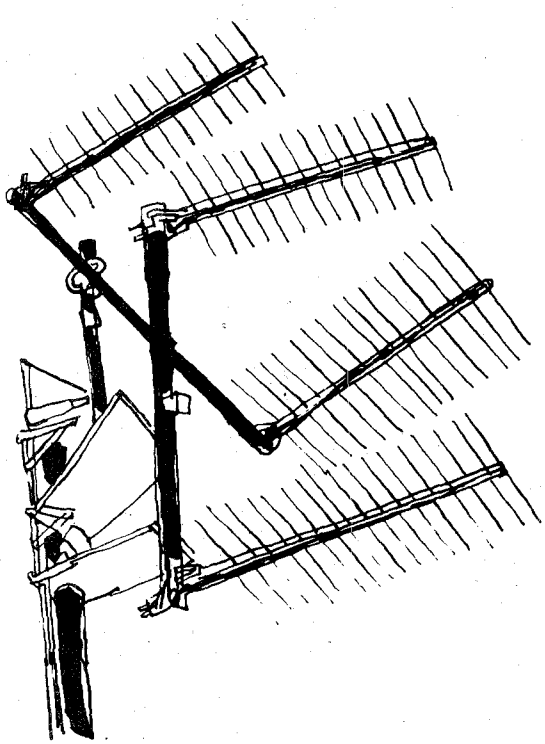
TV issued by Americans for Democratic Action: "Public interest safeguards," including "reasonable pricing . . . are largely ignored." Many municipalities soak the cable operators, and then permit them to make unconscionable profits, in which the cost of the municipal shakedown can easily be absorbed.

In the early days, municipalities did not ask for a share of the take, but most of them now make it clear that anyone who hopes for a franchise must give the city its cut. Many agreements allow the city 5 per cent of the gross, and some go higher. The franchise in Albuquerque, N.M., assigns the city 5 per cent of the gross up to $250,000, 10 per cent from $250,000 to $500,000, and so on up to 36 per cent at $1.3 million. In Modesto, Calif., Cablecom General won the franchise by offering the city a $32,000 advance payment, and a sliding scale of the gross, running from 5 to 37 per cent. Theta Cable is reported to have plunked down $845,000 for the privilege of wiring up the communities in the canyons surrounding Santa Monica.

It need hardly be said that many persons who got in on the ground floor of the business are now multi-millionaires. In 1950 Milton Shapp started in cable TV with an investment of $500, and was soon involved in a number of cable enterprises. In 1958 he testified before the Senate Commerce Committee, and was questioned by Kenneth A. Cox, then the committee's counsel and subsequently an FCC Commissioner:

Mr. Cox: Did you install the system in Clarksburg W. Va?
Mr. Shapp: Yes.
Mr. Cox: What was the total cost of installation in that, approximately?
Mr. Shapp: The cost of installation is different than the cost of invested capital. There is approximately $200,000 invested in Clarksburg, but the cost of the system is $350,000 to $400,000. They used much of the money collected from subscribers to expand the system.
Mr. Cox: I have some place in my notes a figure of $975,000 in connection charges. Would that be correct?
Mr. Shapp: It could be.
Mr. Cox: This would be about three times the—
Mr. Shapp: You have picked out one of the three most profitable community antenna systems in the United States.
Mr. Cox: And the rates that you charge there are not, and never have been, regulated either by the FCC or by any agency of the state of West Virginia?
Mr. Shapp: No.



It should be noted that the $975,000 was for installation charges alone, and did not include any of the monthly subscription fees. In 1966, when he ran for governor of Pennsylvania, Shapp sold his CATV interests for a reported $10 million.

Obviously, what is needed, and needed urgently, is a different and better kind of watchdog system. It is a problem to which I shall return.

'SAVE FREE TV!'

The display booths at the 1969 Convention of the National Cable Television Association were intriguing, but not invariably reassuring. At one of them, a pretty girl in the scantiest of bikinis sat on a high stool, wiggling her toes in the midst of a sea of suit-and-tie cablemen. She was a come-on for CATV Bingo. The promoter provided all the material and information for the use of an empty CATV channel to play bingo by cable. Local merchants distribute the cards to customers, who then rush home, glue themselves to the cable, and play solitaire bingo all day long, phoning the cable station when they win. "CATV Bingo is sweeping the country," the firm's literature said.

Less obviously stultifying is an ambitious cablecasting package developed by Gridtronics, Inc., a subsidiary of TeleVision Communications Corporation (TVC), run by Alfred Stern. Stern is one of the CATV industry's most eloquent spokesmen. "I submit that we must take the 'mass' out of the mass media when we talk about the future of television in America," he said in a speech to the 1968 NCTA Convention. "Cable communications is the only way available to the set owner in America to decide what he wants to see." Unfortunately, Stern's ambitious contribution to cablecasting seems designed to put "mass" into this new medium.

The Gridtronics cablecasting package consists of four channels of material that the cablecaster can put over his cable. They are described in the firm's literature:

Information Channel: The dramatic presentation of history, literature, travel—to heighten an individual's perception of contemporary life.
Instructional Channel: Films that teach at every level.
Startime Theatre Channel: An uninterrupted entertainment series of blockbuster movie features.
Professional Channel: A dynamic new medium providing vital information for the physician.

None of the channels will carry advertising, and all

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the material will be shown without interruptions. The plan will soon be introduced on the cable system in Winter Haven, Fla., and is now available to other systems.

Subscribers to a cable system who wish to receive one or more of the Gridtronics channels, are given a small converter to place atop their sets, with a four-position pointer to choose the channel they want to receive. They would pay, in addition to their monthly cable rental, $2.50 per month for the Information Channel, $2.50 for the Instructional Channel, $5 for the movie channel, and $2.50 for the medical information channel.

It would be unfair to comment on the content of the Gridtronics package in advance, but nothing in the promotional flier indicates that the offerings will be significantly different in content or approach from material now being produced—with larger staffs, budgets and experience—by existing commercial, educational and public television facilities. And it does little to promote cable TV's greatest potential contribution—its ability to cater to specialized community, minority and individual needs and tastes. In fact, the easy availability of a wide selection of such nationally prepackaged material could inhibit creative local programming.

One of the four channels in the Gridtronics package—that for doctors—*does* carry specialized content, but even here the dangers of commercial packaging are apparent. The channel, says the firm, will "be subsidized by leading pharmaceutical companies." Material will include a "weekly presentation of news" by pharmaceutical manufacturers; a "drug detailing hour" will present "products and their properties by various individual pharmaceutical manufacturers." The drug industry has been waging promotional war on the nation's doctors for years. Now, instead of being visited in person by the industry's detail men, doctors will be solicited by remote control, and will pay for it themselves by the month.

This ambitious venture makes clear that if the nation does not move quickly to formulate comprehensive policies, the shape of cable TV will be largely determined by the forces of the market place.

Another obvious issue raised by the Gridtronics package is how CATV programming is to be financed. A cable system can absorb the costs of local originations on a modest scale, but someone will have to pay for full exploitation of the potential. Edward Greenberg, associate professor of economics at Washington University, St. Louis, discussed the problem in a speech entitled "On the Economic Feasibility of Offering New Services via Cable TV Systems," at the 1969 NCTA Convention. "To attract new subscribers, some programming might be offered at no additional charge. For special events or programming which appeals to fairly small, specialized audiences, additional charges might be made. Finally, advertisers might be willing to sponsor CATV-originated programs."

Professor Greenberg's second item, "additional charges," is actually that recurring nightmare of commercial broadcasting and theatre owners—pay TV. The term is usually not applied to the monthly cable subscription fees, although this in a sense does represent payment for television. "Pay TV," whether over-the-air TV, or by cable, refers to charges made for specific programs. One might well wish that additional payment for cable programming had been restricted, in Professor Greenberg's words, to "special events or programming which appeals to fairly small, specialized audiences," and which would not have reached the TV screen in mass-programming contexts. As it turns out, Gridtronics is initiating pay TV for centrally produced mass programming, in the approximate image of things that are already being done by major broadcasters and educational TV. But the point is not whether this use of pay TV is the best that could have been conceived. The point is that the event so feared by commercial broadcasters and the motion picture theatre industry has in fact occurred.

Because Gridtronics has moved into the mass-programming business, which implies ruffling as few feathers as possible, the firm's position on the movie issue thus far has been to cooperate fully in the existing trade restraint. Stern has agreed that Gridtronics will show on its movie channel only films that have completed their engagements in first-run and neighborhood houses. But there is no guarantee that other cable promoters will be so accommodating. And an even greater danger looms.

As cable systems proliferate, it will become simple to hook them together into a national cable network. Frederick W. Ford, retiring president of the National Cable Television Association, forecast that development in an address to the 1969 NCTA convention. "I expect substantial development very soon in the nationwide distribution of Public Broadcasting Act programs, many of which may be distributed on cable television channels in prime time by way of domestic satellites, which will no doubt interconnect cable systems for nonentertainment type programming."

It will be noted that Ford excluded entertainment programming from his vision of a cable network, but that was because he and his cable association were at the time playing footsie with the National Association of Broadcasters, in which NAB agreed to drop its hostility to program origination by CATV, if the cable men would agree not to hook up their systems to provide mass entertainment. The fact is that there is no reason, other than collusion in restraint of trade, why a cable network should not bring diversity to entertainment programming, as well as other types of programming. And there is no reason, other than collusion in restraint of trade, why such programming should not include first-run movies.

A cable network could operate by assessing each CATV member a small portion of its gross receipts. It could also put out its own special offerings on pay channels. Either way, or in both ways, a cable network would make money, and would be able to move in circles where money talks. It could, among other things, offer fees for first-run films that would tempt at least some movie producers. In addition, it could acquire, for more modest fees, first-run rights to special interest films, to films that have attracted interest and attention at film festivals, and to yet other films whose theatre possibilities would be limited to a few university towns and major cities. All these types of films could earn their way on pay channels, the lower "take" on special-taste films being offset by the lower cost of obtaining the rights.

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A cable network with a substantial programming emphasis on films could, therefore, bring to every town and community a variety of fare that is now available only to assiduous moviegoers in a few of the nation's largest cities. Persons could see this material for far less than box-office prices. And this immense new outlet could provide yet another stimulus to diversity and creativity in the making of movies.

This possible chain of developments is what the movie theatres are determined to prevent. Their ingenious and ostensibly altruistic ploy is a campaign to "Save Free TV!"—that is, to save the type of TV that does not bring into the home films in greater variety and at less cost than is possible under the present system of theatre distribution.

The National Association of Theatre Owners (NATO) and its affiliated theatres have mounted an immense and costly effort. Printed material for the campaign includes an "invoice," addressed to "Mr. and Mrs. John Public" and showing a one-month "Pay-TV Bill" of $92.40. From coast to coast, "Save Free TV!" blazes from marquees, and moviegoers are urged to sign petitions in the lobby. Some 10 million signatures have been collected, mostly, one can hardly help concluding, from persons who had no idea of what was really at stake.

The industry has also been busy in Washington. Bills to prohibit pay TV have been introduced by twenty-two Congressmen, and an unknown number of bills have appeared in state legislatures and city councils. In New York State, twenty-seven Assemblymen, led by Leonard P. Stavisky of Queens, introduced a bill in February 1969 to prohibit CATV systems from originating movies or other entertainment programs. Hearings were held on the bill in the fall of 1969, and its fate remains in doubt.

In New York City, movie theatre interests pressured the city council into amending the franchises of the city's CATV systems to prohibit them from showing first-run movies. This requirement is now enforced by the city's Bureau of Franchises. The City Club of New York, one of the few civic groups that paid attention to what was happening, expressed its opinion succinctly: "Press freedoms and fair competition are ignored in order to defend old institutions from new technology."

ADVERTISING & COPYRIGHT

In addition to payment for specific programs, Professor Greenberg mentioned advertising as a source of funds for CATV programming. It has already come to cable TV—about 10 per cent of cable systems accept advertising on their program origination channel.

In at least one sense, that can be regarded as a benefit. Few small merchants or local businessmen can afford over-the-air TV advertising, a circumstance that favors big merchants and the national giants. Cable advertising is much cheaper, and the advertiser, like the candidate for office, can reach his exact local community. He gets more for less.

The real problem with advertising on the cable goes to the heart of what is wrong with the way that CATV is being developed. If a cable operator sells advertising on a channel where he presents his own material, he will want as much of his audience as possible to watch that channel. His motivation will therefore run in the same direction as that of present-day over-the-air broadcasters—that is, it will be against his economic interests to provide as many channels as possible on his cable system, since each additional channel will further reduce the audience for the advertising he has sold.

What is obviously needed is a system that will give the cable operator an exactly opposite motivation—an economic reason to open on his cable as many channels as possible. This involves fundamental issues of public policy, toward which my discussion is directed.

Another current issue is copyright. Cable systems pick up and transmit the entire offerings of over-the-air broadcasts, including copyrighted material. For years the broadcasters have been protesting that the cable systems should pay for such material, but the cable owners maintain that, like any other citizen, they are entitled to put up an antenna and receive signals without charge. Broadcasters make the obvious retort that other citizens do not rebroadcast the signals for profit, but so far no copyright fees have been paid.

The copyright dispute has become a pawn in the larger struggle between cable companies and the broadcasting industry. By charging big royalties, by requiring that the cable companies make the payments individually to each of the thousands of persons to whom they are due, and by insisting that back payment be made for all material thus far used, the broadcasters could seriously cripple the cable industry. For their part, the cable operators have made it clear that, if excessive royalties were demanded, they would move more quickly and more extensively into program origination.

Despite their public stance, most cable operators privately concede that reasonable royalties are probably due and must ultimately be paid. This feeling was reinforced in 1966, when the U.S. District Court for the Southern District of New York ruled that two cable systems in West Virginia owned by the Fortnightly Corporation had infringed copyright by transmitting shows owned by United Artists Television, Inc. When Fortnightly appealed to the Supreme Court, nobody in the cable industry was optimistic about the outcome. Representatives of the cable and broadcasting industries then began private discussions on the copyright problem, with the broadcasters holding most of the aces.

While these discussions were going on, and to almost everyone's surprise, the Supreme Court in June 1968 reversed the District Court's ruling. The key question, the court said, was whether cable systems "performed" the shows, since the 1909 copyright law required payment only for actual performance. A 5-to-1 majority said that retransmission by cable was not a performance.

This victory for the cable interests is only the preliminary round. For some time the Copyright Subcommittee of the Senate Judiciary Committee, headed by Sen. John L. McClellan (D., Ark.), has been working on a general revision of the copyright laws, and for more than a year the committee has been assuring both broad-

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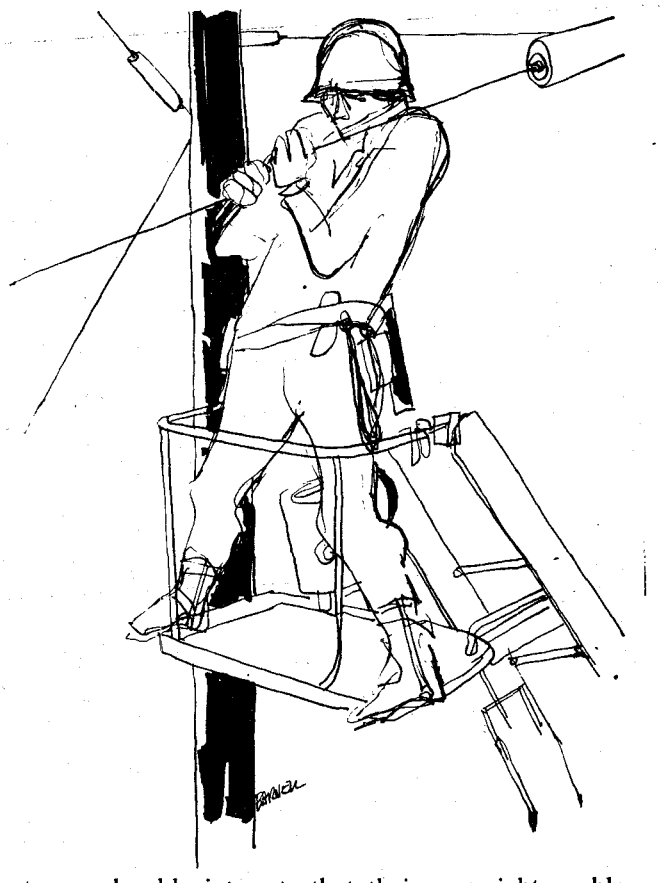

casters and cable interests that their copyright problems would be dealt with specifically in the new bill.

With that legislation in prospect, and for other reasons that will be evident in a moment, the National Cable Television Association and the National Association of Broadcasters scheduled further private talks to cover not only the copyright problem but a variety of other matters in contention between them. On May 29, 1969, the two groups announced a compromise accord by which cable operators would pay copyright fees and, among other things, would agree not to create a network of cable systems that would originate entertainment programming.

As things turned out, the agreement never went into effect, but on December 10, 1969, Senator McClellan's subcommittee reported out a new copyright bill which provides for royalty payments by cable systems, and incorporates various other features of the defunct NAB-NCTA agreement. These matters also bear on public policy, and will appear again in my discussion of that aspect of the subject. The bill will be taken up by the full Judiciary Committee sometime in 1970; if passed, it will take effect in January 1971.

Two other issues that relate to the place of cable TV in the nation's communications systems are the increased crowding of the electromagnetic spectrum, and the UHF TV channels.

Television is, of course, only one of many users of the air waves. Others include AM and FM radio; short-wave and amateur radio; two-way telephone systems for private cars; walkie-talkies; remote-control systems used by home owners for such purposes as opening garage doors; short-distance, two-way radio systems for dispatching and directing taxis, delivery trucks and other types of commercial vehicles; the airlines; police and fire departments; the government and the military; marine communications; microwave stations for retransmission of signals; communications satellites; the space program and radio astronomy. The FCC estimates that 10 million transmitters are now authorized to use the U.S. air waves. To say that they are jostling one another is an understatement, and the crowding can only get worse.

The heaviest pressure on the spectrum is coming from the group that the FCC calls land-mobile users. These are the short-range, two-way radio setups whereby a dispatcher maintains contact with one or more vehicles. The category includes taxi fleets, delivery and service vehicle fleets, and police and fire departments. (Among police departments, additional pressure is coming from the spread of walkie-talkies. The Commission now licenses 200,000 new units in this category annually, and expects that more than 7 million of them will be in operation by 1980.

The frequency range best suited for this kind of transmission also includes TV. Within this range, 60 per cent of the spectrum is allocated to TV and FM broadcasting, 34 per cent is set aside for government and aircraft use, and only 5 per cent is allocated to land-mobile communications.

The land-mobile users want the FCC to give them part of the TV spectrum. Their initial requests have been for part of the UHF spectrum. They point out that the UHF band is not being widely used. They state that commercial TV broadcasting is an entertainment and advertising medium, and as such not intrinsically entitled to an overwhelmingly large span of the spectrum at the expense of other legitimate uses. Even if part of the spectrum were reassigned for these purposes, they say, plenty would be left for selling soap.

TV broadcasters vehemently resist the reassignment of any part of the TV spectrum, but there is another possible solution. In centers of population over-the-air television can be transferred to the cable, thus clearing broad areas of the spectrum for land-mobile use.

This solution is no more acceptable to the TV industry than is parting with a share of its spectrum, since it subjects their programming to all the hazards of increased volume and variety of TV fare already noted. It is a plain fact, however, that TV can be transmitted by cable and land-mobile communications cannot. Relieving congestion on the air is another important potential benefit of the cable.

The attempt of land-mobile users to invade the UHF band is a comment on what has been happening in this area of the spectrum. Up through the 1950s, TV signals went out over only the twelve channels of the VHF spectrum which the FCC had assigned to commercial users. The result of this assignment was an inadequate choice of stations for most viewers, near uniformity of fare, and little community service. The pattern was contrary to the public interest, and the FCC could not ignore it indefinitely.

Legally, the Commission could have reassigned part of the VHF spectrum to noncommercial use, but that

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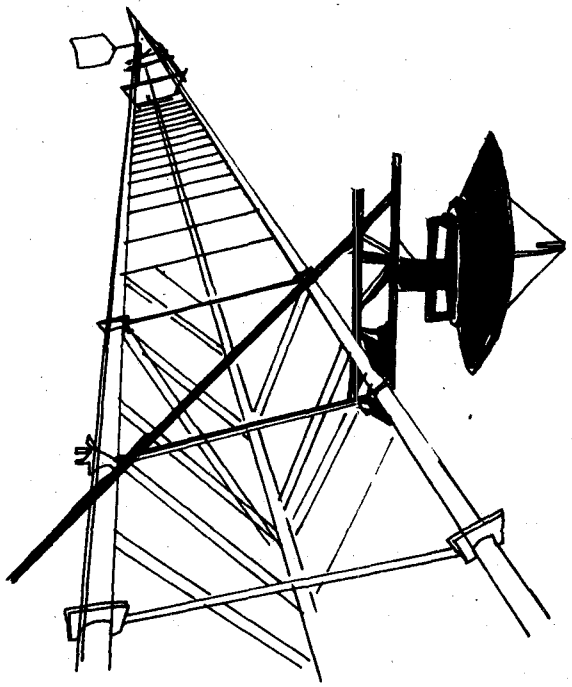

move was a political impossibility. The FCC therefore took what seemed the next best step: it opened up the UHF spectrum for commercial licensing. The Commission hoped especially that the new UHF stations would move into the area of community service. With strong FCC urging, Congress in 1962 passed a law requiring all new TV receivers to have UHF tuners.

Far from resisting this approach to a broadening of available TV fare, the VHF broadcasters applauded it. Assuming that public policy could not indefinitely ignore the results of the VHF giveaway, this "reform" promised existing broadcasters the least trouble. It provided the illusion that something effective was being done, and could keep the FCC busy for years building up UHF broadcasting. For the VHF broadcasters these would be additional years of grace.

The ultra-high frequencies are poorer signal carriers than the very high frequencies. To produce a signal of given strength and clarity, a UHF station must install more expensive equipment than is required by a VHF station. Few UHF outlets have been able to make this additional investment, and their signals are therefore inferior.

At the same time, UHF stations get less return on the investment they do make, because the VHF outlets are already squarely camped on most existing sources of revenue. UHF, therefore, is always on the verge of starving to death, and the FCC has in fact devoted much time stations were in operation, but only forty-four showed trying to prevent it from foundering. In 1967, 133 UHF profits, and of these, forty-two had network affiliations. Thus, of eighty-nine non-network UHFs, only two were in the black. In Chicago, one of the nation's largest advertising markets, four UHF stations have died.

With little to invest in programming, and with almost no chance to succeed unless they are affiliated with a network, UHFs cannot provide a genuine alternative to existing types of programming. And they certainly cannot mount comprehensive and creative community services of the kind the FCC so naively foresaw. "Is it any wonder," says Washington TV consultant Arthur Alpert, "that the typical UHF station consists of a transmitter, a film projector, old situation comedies and ancient movies?"

But the more incompetent UHF has proved itself as an alternative to VHF, the harder the FCC has pushed it. Behind this unswerving devotion lies an intensive lobbying effort—not by the UHF stations, which have no money to hire lobbyists but by the VHF industry. For them, this approach to better U.S. television is a dream come true.

Americans are so accustomed to their system of broadcasting that it probably occurs to only a few that different arrangements exist in every other country in the world. And if they do notice the difference they assume, no doubt, that our system is the result of clear national choice. Quite the opposite is the case. "Perhaps never before in history," says Harry J. Skornia, professor of communications at Northwestern University and author of *Television and Society,* "have the most powerful channels to the people been so completely controlled by so small a segment of the national life." The point is elaborated by Alexander Kendrick in *Prime Time,* his biography of Edward R. Murrow: "Far from being an expression of majority desire, as the networks say, television programs are the imposition of a social minority on the majority, the minority consisting of the fifty top advertisers, the three networks and a dozen advertising agencies. It is what they think public taste is and demands that governs the nature of broadcasting."

Only in America is this true, because only in America is television basically a commercial enterprise. Back in the years 1948-51, when the FCC was allocating the twelve channels of the VHF, the question arose as to who should get the licenses. At least some staff members of the Commission took the question seriously. A number of major interests in American society might reasonably have claimed a share of the scarce spectrum. Corporations and commercial interests were one; education was another; nonprofit public programming, subsidized either by the government or by a combination of government funds and private philanthropy, was a third. Labor was certainly entitled to consideration, particularly if part of the spectrum was to be licensed to corporations. Religious groups, and other important interests in society, might merit consideration. But, as it turned out, the group with the real power in Congress and at the FCC—the existing commercial radio industry and radio networks—walked away with the whole pie. Incredibly, the entire VHF spectrum was given to a very small group of immensely wealthy persons and corporations, to be used for the sale of cigarettes, soap and a few other consumer products noted principally for the large amount of advertising expense represented in the retail price.

Educational TV and public TV have belatedly edged onto the fringes of the spectrum, with budgets that depend on the largess of foundations and the uncertain annual whim of Congress, and that in any case would hardly keep U.S. commercial television on the air for more than a few hours a year. The solid sweep of the

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VHF spectrum is still in the hands of the hucksters, and they will not give it up.

Television is one of the most remunerative activities in the annals of business. Broadcasters average a 90 to 100 per cent return on their tangible investment annually. However, some members of this money-making fraternity do better than others. The gold mines are the stations affiliated with one of the three major networks. They hook themselves onto the network line and receive an unending flow of mass-audience material. The network pays them for the audience they contribute, and they can also sell commercials on spots adjacent to network shows. Stations with this arrangement find it impossible not to amass huge profits; except for a few independents in the largest cities, stations without network affiliation usually cannot make the grade at all.

Thus the way to succeed in commercial U.S. television is to get a network contract, do little or nothing to build up local programming, and confine one's efforts to making regular trips to the bank. One need not live in, or be interested in, the community where the station is located. One can buy a string of these little wonders, here and there throughout the country, and rake in the proceeds. That is what is done; that is the shape and the form of television in the United States.

It has had at least two notable effects. First, and catastrophically serious, a nation beset by multiple crises has been deprived of its most potent medium of communication, a medium it could have used in the service of its overwhelming social needs. Second, the content and emphasis of the programming designed by the powerful few to deliver the public to the advertiser may have made at least some of the social problems worse. On the one hand, there has inevitably been, as Skornia puts it, an "authoritarian imposition of attitudes and values manufactured by the business community." On the other hand, in the words of a recent statement by the National Citizens Committee for Broadcasting: "The great majority of broadcast programs are devoted to vulgarity and violence. . . . We believe this inferior programming on commercial TV and radio undermines our society. . . ."

Capturing the VHF spectrum for private exploitation was an impressive achievement by perhaps the most powerful of Washington lobbies. As I said earlier, the broadcasting industry controls an access to the public that is essential to all members of the government. In addition, at least thirty Senators and Congressmen are owners or part owners of TV or radio stations, and a far larger number have interests either in corporations that own or operate broadcast properties, or in closely allied communications industries. Broadcasters have long had their way in matters of legislation. Says Skornia: "The fact that in recent years so large a proportion of legislation has been devoted to protection of property and of the rights of broadcasters, rather than to protection of the consumers, reveals the power of the broadcast industry to define regulation and effect legislation on their own terms."

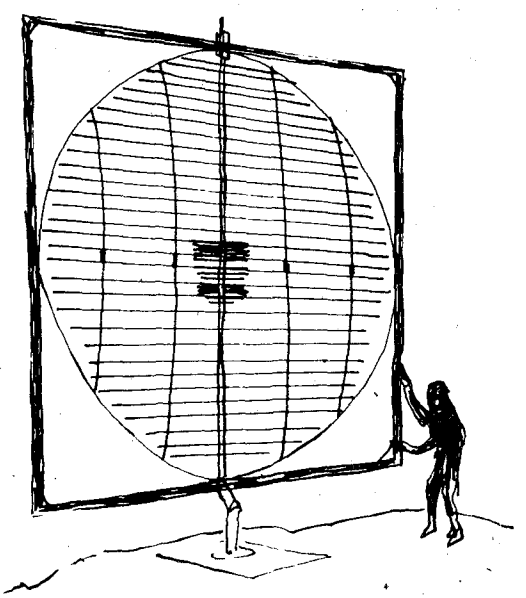
A current instance is the FCC's activity on the license renewals of certain TV stations. Recently, civic groups have been formed in several communities to bid for the licenses of certain TV stations when they came up for renewal, the interest being to turn the stations into better vehicles of community service. The law requires the FCC to hold hearings whenever such a challenger comes along, and it has held a number of such hearings. In one 1968 action, the Commission refused to renew the license of station WHDH-TV, owned by the *Boston Herald-Traveler*. The principal reason given was undue concentration of media ownership.

But cross-ownership of media is more the rule than the exception, and the frightened broadcasters turned to Congress for help. Congress responded quickly. Sen. John O. Pastore (D., R.I.), chairman of the Senate Commerce Committee's Subcommittee on Communications, introduced a bill to reverse the requirements of the present law. It would prohibit the FCC from holding hearings when a station whose license was up for renewal was faced with a challenge. Instead, the FCC could consider a new application only after it had canceled a license. This would prevent the FCC from comparing an existing station's programming record with proposals submitted by competitors for the channel.

The FCC got the message. On January 15, it issued a statement reassuring broadcasters that it would not consider license challenges against radio or TV stations that "substantially" met the programming needs of their communities. Challenges to such stations would be dismissed without reference to other issues, and their licenses would be renewed. "Other issues" obviously include cross-ownership of media, and a challenger's promise of better programming. The statement, of which Dean Burch, Nixon-appointed FCC head, was the principal author, was endorsed by a 6-to-1 majority. Commissioner Johnson was the only dissenter.

The NAB was jubilant, but served notice that it also wanted the even more stringent Pastore bill. "The policy statement is great," said Vincent T. Wasilewski, the Association's president, "but we still feel that there is a necessity for the legislation."

In this fashion Congress, responding to the broad-



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casting lobby, keeps the FCC in line. It also plays the broadcasters' game by keeping the Commission small and underfinanced.

Before he assumed office, President Kennedy commissioned a number of studies and task force reports. One on the FCC, prepared by James Landis, stated that no other government agency was subjected to pressures of the intensity of those exerted on the FCC; that no other agency bowed more completely to the pressures; and that no other agency was in greater need of being freed from them. Ten years later, the need is greater than ever.

THE CABLE AND THE FCC

Cable television men depict the FCC as an ogre intent on destroying their industry. The source of the Commission's animus is alternately ascribed to an excessive lust for power and to its role as the humble servant of the broadcasters and other powerful segments of the communications industry. Describing recent FCC policies relating to cable TV at the 1969 NCTA Convention, general counsel Bruce Lovett told the audience that, by its actions, "the Commission demonstrated its intent to constantly probe our industry for new thresholds of pain and to continue a policy of oblivion for cable television."

The picture is overdrawn. It assumes a higher degree of malevolent intent, and a greater capacity for carrying it out, than the alleged villain has ever possessed. Such a theory cannot account for the complete fragmentation of opinion among the commissioners, revealed by separate statements attached by a number of them to the Commission's basic regulatory orders, and to decisions in a number of cases arising under these orders. Neither can it account for certain individual actions of the Commission. For example, when TelePrompTer Cable TV sought FCC permission to experiment with transmitting cable signals for short distances by over-the-air microwave relay in crowded sections of New York City, where the laying of cable is very costly, the FCC granted the request over vigorous objections by AT&T, Comsat and Western Union, all of which want to develop this area of technology themselves, and all of which have plenty of friends in Washington.

Nevertheless, when every allowance has been made, the FCC's activity in the field of cable TV must be regarded as a serious failure. The problem stems principally from the fact that the Commission has defined the public interest as the perpetuation of the over-the-air television industry as it now exists. "I think you should remember the fundamental hypothesis of the Second Report and Order adopting our CATV rules in March of 1966," Comr. Kenneth A. Cox said to an NAB group in 1968. "It concluded that rules were necessary in order to keep CATV a supplemental service, rather than risk its displacing our basic over-the-air system." FCC's goal, Commission chairman Rosel H. Hyde told members of the House in 1969, has been "to integrate the CATV operation into the national television structure in a manner which does not undermine the television broadcast service." In this context, anything that threatens to "undermine the television broadcast service" becomes "unfair competition."

The shortcomings of this approach are obvious. First, the assumption that the public interest lies in preserving the present setup is open to challenge. Many knowledgeable observers hold an almost opposite view. Second, by using this concept as a basis for making policy, the Commission becomes a party to economic struggles between competing interests and technologies. "Protecting existing interests from the superiority of a new form is a derogation of the Commission's statutory responsibility," said the American Civil Liberties Union in a brief on cable TV filed with the Commission in 1969.

Third, this approach assumes that the public interest is divorced from what the public wants. Indeed, it assumes that the more the public wants the cable, the more vigorously the Commission must act to prevent the public from having it, since high public demand increases the likelihood that the cable will threaten existing broadcasting interests. Last, and far from least, preoccupation with "unfair competition," has involved the FCC in control of what a cable system may carry. Such action raises fundamental issues of free speech and freedom of the press, and it is puzzling that this aspect of the FCC's cable policy did not result in a barrage of court challenges years ago.

When cable systems first appeared, broadcasters welcomed them because they increased the potential audience, but it soon became evident that the effect would be more complex. By bringing a greater number of channels and a greater diversity of fare to a given area, CATV fragmented the audiences that local stations regarded as their private property.

The first agitation by broadcasters to control cable TV came during 1958 Senate Commerce Committee hearings on the problems of bringing TV service to smaller communities. Twelve TV station owners who were called to testify begged Congress to protect them from the cable systems that had invaded their bailiwicks.

This familiar cry of alarm has never been supported by real evidence. For example, none of the twelve stations that in 1958 asked Congress for protection has gone out of business. Despite the cable, all have fared well, and have substantially increased their advertising rates. In the cities in which two of the stations are located, additional TV stations have gone on the air. In two other cities, the owners who subjected Congress to such a woeful picture of their predicament, have since sold their stations at substantial profit.

In the larger picture, cable TV has quadrupled since 1958, both in number of systems and in audience size. In addition, most cable systems, which offered only five channels in 1958, can now carry twelve, a flexibility that further increases the "competition." Nevertheless, 173 new commercial and 120 educational stations have gone on the air in this period, forty-four of them in communities where cable systems were already operating.

Having made its pitch to Congress, the broadcast industry pounded on the doors of the FCC. In 1959 the Commission ruled that it did not have jurisdiction over cable TV. Congressional reaction was prompt. Senator Pastore introduced a bill providing for FCC control of

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cable TV through licensing procedures. The bill (S.2653) narrowly failed, but FCC got the point. It was obvious, the Commission realized on re-examining the problem, that it had jurisdiction at least over cable systems that used over-the-air microwave relays.

In 1962 the Commission began to rule on individual cases of cable systems using such relays, and its authority to do so was upheld by the courts. In 1965 the Commission issued its "First Report and Order," setting forth certain general rules for microwave-served cable systems. In 1966 it issued a "Second Report and Order," asserting its authority over all types of cable systems, whether or not they were served by microwave relays. The Second Order applied the rules of the First Order to all cable systems, and added some new rules. Its general assertion of authority over all cable TV, and the specific rules contained in its two orders, were again sustained by the courts.

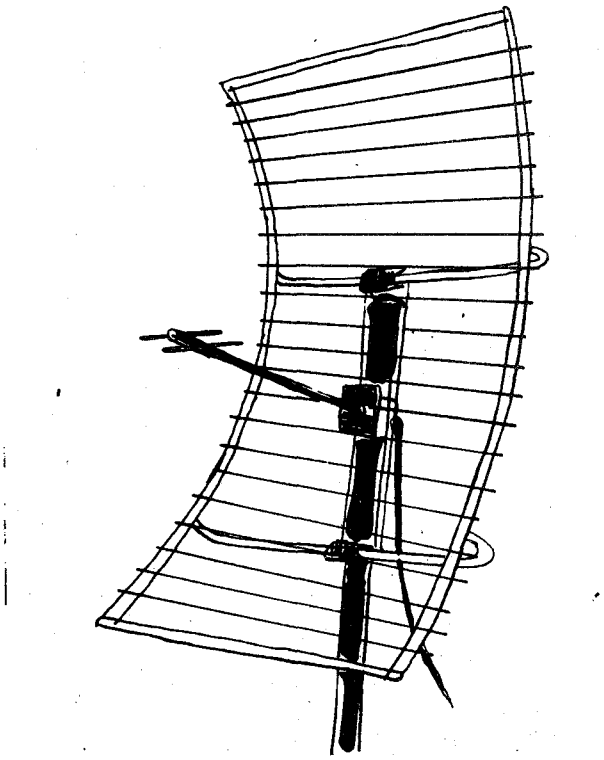
In 1968 the Commission issued a "Notice of Inquiry and Proposed Rulemaking," setting forth some proposed new rules, listing a number of questions about the growth and direction of cable, and soliciting comments on both from the communications industry and from social scientists. Opinions, most quite strong, have poured in.

Each of FCC's major rule-making efforts—The First Report and Order, the Second Report and Order and the Notice of Inquiry—is encompassed in a long, sometimes confusing, document. FCC policy is further embodied in decisions in a number of cases and controversies. The major requirements that FCC has placed on the cable can, however, be set forth without entering too far into the jungle of subsidiary issues.

The First Report and Order. This set forth what are usually referred to as the carriage and non-duplication rules. The carriage rule requires a cable system in a given community to carry the local TV station, along with whatever other stations it may offer. The purpose is to insure that cable subscribers are not cut off from their local TV outlet. (A TV set hooked to the cable can no longer receive over-the-air signals.)

The non-duplication rule concerns the importation, from a distant station, of a program that is being shown by the local station. Such action, FCC Chairman Hyde said in his 1969 Senate testimony, "fractionizes the local audience, and audience is what the local station in effect sells. . . ." The rule prohibits a cable system from showing such programs on the same day that the local station shows them.

The carriage rule has aroused little controversy. There are reasons why a television viewer should not be deprived of local broadcasts when he goes on the cable, and in practice few cable systems ever intended to do this to him. The non-duplication rule is now also accepted with little grumbling, but it launches the Commission much further into the fields of economic protectionism and control of TV content. The supposition on which it rests, that local stations may die for lack of sufficient advertising revenues if certain of their offerings are also delivered to cable viewers from a distant station, is entirely undemonstrated. But even if such drastic consequences could be proved, efforts to prevent it by controlling the content of the cable raise issues at least as serious as those that the policy is designed to solve.



Adoption of the First Report and Order by the Commission was not unanimous; Comrs. Robert T. Bartley and Lee Loevinger issued dissenting statements. Loevinger's was eloquent, and went to the heart of the issue. "The Commission is doing the wrong thing when it seeks to control, directly or indirectly, the specific programs which shall be presented to the audience. . . . I disagree with the non-duplication rule which I believe is an improper attempt to limit competition by controlling programming. . . . Apparently the Commission has not yet learned that the expansion of service is not to be attained by the limitation of competition and the imposition of rigorous regulation, but rather by stimulating competition and moderating regulation."

The Second Report and Order. The FCC nevertheless went much further down the path of program control in its Second Report and Order in 1966. The most important provision of this document relates to cable systems that propose to operate in any of the nation's 100 largest urban market areas. The rule states that if any established TV station in the market area, or even any group that *intends* to establish a new UHF station, objects to the cable system's plan to import distant signals, then the cable system cannot import them unless it can prove to the Commission's satisfaction that such importation "would be consistent with the establishment and healthy maintenance of TV broadcast service within the area." Existing or projected stations in the area do not need to offer any evidence that importation of distant signals will harm them; they need only object. The cable system must then prove that such importation will do no harm to established local interests. Such proof, obviously, is not easy to get.

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The practical effect has been to prevent most cable systems in the nation's top 100 market areas from importing distant signals. This, in turn, deprives cable TV of its principal selling point, and has substantially curbed the entry of the cable into most of the nation's urban areas. The 100 top TV markets comprise about 90 per cent of the nation's population.

The adoption of the Second Report and Order further fragmented the Commission. Of the seven Commissioners, Robert T. Bartley, Kenneth A. Cox and Lee Loevinger, issued statements dissenting in whole or in part. Loevinger was at his colorful best, attacking not only the content of the order but the faulty procedures by which the majority arrived at its conclusions, and the way in which the conclusions were expressed: "The opinion refers to little evidence and much of that is inconsistent; assumptions and speculation substitute for facts, the reasoning is circuitous and illogical, and the statement is so turgid and prolix that it does more to obscure than illuminate the subject."

An interesting feature of the Second Report and Order is an apparent shift in emphasis. In the 1958 Senate hearings and in the First Report and Order, the focus was on protecting small local stations. The politically important pressure, however, was coming from the big stations in major urban areas. For a time the pretense of being concerned for the well-being of smaller stations was a useful way for the major powers in broadcasting to curb the growth of cable, but it eventually became clear that action to protect major broadcasters in urban areas could not be based on an assumption of altruism. The smaller stations were therefore cut off and left to their fate. Under the Second Report and Order, cable systems are free to import distant signals into communities not within the 100 top markets.

In the Second Report and Order, the FCC also returns to its favorite project, fostering the growth of UHF. "Independent UHF stations are coming on the air in many of the larger markets," FCC Chairman Hyde explained in his 1969 Senate testimony, and they need to be protected from the competition of the cable. Thus a group that even alleges an intention to open a UHF station in one of the 100 largest markets can prevent a cable system from importing distant signals.

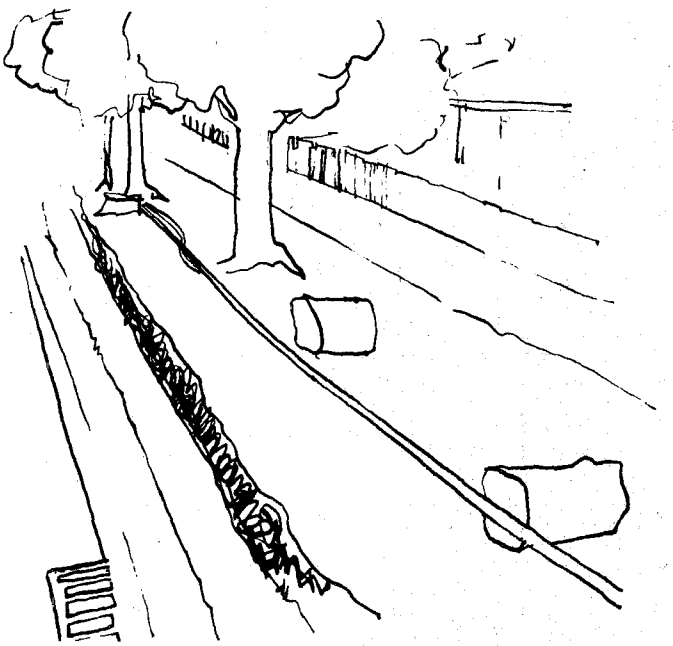
There is, however, little evidence that this will nourish UHF. In fact, the exact opposite is probably the case. Frazier, Gross and Co., a management consulting firm in Washington, D.C., has found that CATV homes watch more TV than non-CATV homes. Because of this, and perhaps also because UHF enjoys equal clarity and equal position on the cable dial with VHF stations, "CATV located in a mixed market and importing distant signals can have a salutary effect on the audiences of the local UHF station[s]."

The growth of UHF is impeded by tremendous handicaps already mentioned and it will probably never prosper no matter what cable systems or the FCC do or fail to do. The true beneficiaries of the Second Report and Order are not the UHF outlets but the VHF giants.

The Second Report and Order has created a nationwide patchwork of absurdities. A typical case is the cable system in Greensburg, Pa. Greensburg lies within the Pittsburgh market area as defined by FCC, and therefore its cable cannot offer distant signals to its subscribers if Pittsburgh broadcasters object. The system's request to do so was blocked by Pittsburgh's KDKA-TV, one of the nation's biggest stations, and by Springfield Broadcasting Company, which has a permit to build a UHF outlet in Pittsburgh.

The Greensburg cable carries all Pittsburgh stations, plus one station each from Steubenville, Ohio and Johnstown, Pa., which are regarded as being within the Pittsburgh market area. It would like to import two other stations, one from Wheeling, W. Va., and one from Altoona, Pa. These stations can be received, with varying degrees of clarity, by many residents of Greensburg, but they are kept off the cable, and this has substantially reduced the number of subscribers.

The big loser in this situation, apart from the cable system, is Channel 53 in Pittsburgh, a UHF outlet.



Channel 53 is happy to be on the Greensburg cable, where it can compete with the VHFs, but the cable, because it is unable to deliver the Wheeling and Altoona signals, cannot provide Channel 53 with as big an audience as it otherwise might. The winner, of course, is monster KDKA-TV.

In San Diego, the FCC "protected" the local UHF outlet by prohibiting the cable from carrying Los Angeles signals. The cable operator put up a lively fight, alleging that the FCC had no jurisdiction over CATV in the first place. The case, *Southwestern Cable Corp.* v. *FCC*, went to the Supreme Court, which upheld the Commission's jurisdiction. Interestingly enough, the fight in San Diego was not waged by the UHF station but by the local VHF station. The FCC found that if the cable carried Los Angeles signals, it might be able to sign up as many as half of all San Diego set owners. This would represent "substantial penetration" of the San Diego market which, in turn, made FCC prohibitory action the more urgent.

In San Diego, the Commission also prohibited the

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cable system from carrying advertising on its program origination channel. In some cases, the FCC has prohibited such advertising, and in others has permitted it. The criterion has been the Commission's opinion as to whether or not the cable's acceptance of advertising would cut significantly into the revenue of over-the-air local stations. Again the Commission had little evidence to go on. And again it has found itself in the position of arbitrating between competing interests.

The Proposed New Rules and the Notice of Inquiry. FCC's proposed new CATV rules and its list of questions about the role of cable in the nation's communications future, both promulgated on December 13, 1968 (with additions and clarifications on January 17 and May 16, 1969), represent a genuine effort by the Commission to rethink its role in cable TV. The American Civil Liberties Union, one of many organizations that took advantage of the invitation to file opinions, stated that the results of this rule-making procedure "will surely affect the American system of public communications for decades to come."

On the importation of distant signals, the proposed rules are even more restrictive than the existing ones. At present, a cable system that thinks it can convince the Commission that such importation into a major market area will not hurt local broadcasters can at least ask for a hearing. Under the new rules, importation is prohibited unless the cable operator has obtained, on a program-to-program basis, the original broadcaster's consent to retransmission. Even if the original broadcaster were inclined to give this consent, his contracts with the persons who hold the copyrights could prevent him from doing so. The new rule therefore reimposes on cable systems in major market areas the copyright liability that was struck down by the Supreme Court in the *Fortnightly* case.

In smaller market areas, where cable operators were formerly free to import, the proposed rules would permit only enough distant signals to supplement local service to the extent of providing the three networks, one independent station and as many educational stations as the system wished to carry. All importations must be selected in order of proximity to the cable. Beyond this basic selection, the cable operator must seek program-by-program permission to import distant signals—which means, in effect, that he cannot do so.

This whole section of the rules is depressing. After reflecting on the problem for more than two years, the Commission has gone from bad to worse. There is reason to believe that the rules proposed are an effort to plug the hole in the copyright dike that was opened by the *Fortnightly* ruling, until such time as Congress passes new copyright legislation. To one dubious role, that of protecting the nation's broadcasters, the FCC has added a second and even more farfetched one—that of protecting the nation's copyright holders. And in this case, it is imposing, by administrative indirection, a requirement whose direct enforcement was ruled illegal by the Supreme Court.

Fortunately, the proposed rules are much better in several other areas. One of these is program origination. After vacillating for a number of years, the FCC has come out for it, despite opposition from many segments of the broadcast industry. One proposed rule would actually *require* all but the smallest cable systems to originate programming. This reflects the Commission's increasing recognition of cable's ability to solve the problem of local service.

The FCC would permit the cable operator to accept advertising on his origination channel, and that rule has a welcome proviso: advertising material cannot interrupt program content; it must be confined to natural breaks. The Commission should now consider applying the same rule to all broadcasting.

Under the proposed rules the cable operator would be "encouraged" to make any other empty channels on his system available on lease to all comers, on a "common carrier" basis. Here, no bigger than a man's hand and tucked away in a few lines of a long and complex document, is probably the most momentous issue of all. "If they had *required* common-carrier status and made program origination optional, instead of the other way around," says Sidney W. Dean, Jr., a specialist in marketing and communications and chairman of the Communications Committee of Americans for Democratic Action, "then we would be in the right ball park at last." I shall say more on Mr. Dean's ball park in a moment.

In the proposed rules the FCC also takes its first step into another important area—ownership of cable companies. Belatedly, and on a small scale, the Commission shows signs of recognizing what Commissioner Johnson observed in 1968: "Technological change can bring change in structure, but it is as likely to be change to even greater concentration as to wider diversity."

One big owner of cable companies is the broadcasting industry. Faced with a medium that could offer serious competition, they have been buying the cable systems, or building them from the start. At present, about 25 per cent of the U.S. cable industry is owned by over-the-air broadcasters, and the acquisition trend is continuing. A large portion of the ownerships involves stations and cable systems in the same community. A typical holding is that controlled by the family of Lyndon Johnson. Ladybird, Linda and Luci own 84 per cent of the stock of Capital Cable Company in Austin. Mrs. Johnson also owns Texas Broadcasting Corporation, which holds the licenses for KTBC-AM, KTBC-FM and KTBC-TV in Austin.

The networks are also moving in. Owners of cable systems include CBS, NBC, Westinghouse and Cox Broadcasting Corporation. CBS recently bought two systems in Marin County, Calif., at a reported cost of $2.5 million, and acquired the stock of Tele-Vue, which owns and operates a number of systems in California and Washington, at a reported price of $21.3 million. CBS has had merger discussions with TelePrompTer, the nation's second largest owner of CATV systems.

Other enthusiastic buyers of cable systems are newspapers and magazines. Both are aware that the cable can transmit printed matter directly into the home. Time, Inc., has invested $15 million in cable TV. Still other buyers are equipment manufacturers such as General

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Electric, and giant industrial combines such as Kaiser Industries and Gulf & Western. The latter, one of the largest conglomerates, holds cable franchises in twenty-seven cities, in twelve of which it now has systems operating. Gulf & Western also owns Paramount Pictures. Asked if he intended to use Paramount films on the cable systems, G&W Chairman James Shaw replied: "Yes. This is why we think we can offer more to the people of this country than any other MSO [multi-system owner]."

Within the cable industry itself, ownership concentration is also increasing, and absentee ownership becomes more common. The largest owner is H&B American Corporation, whose principal stockholder, Jack Kent Cooke, owns a 32.5 per cent interest in the company. H&B, which went into business in 1960, owns sixty-two cable systems; it also owns a radio station in Santa Barbara County, Calif., is an applicant for UHF channel 16 in Dubuque, Ia., and is half owner of Television Testing Company, which uses CATV for market research for advertisers and broadcasters.

This giant is about to be swallowed whole. In August 1969 the boards of H&B and TelePromptTer approved a merger of the two firms, TelePromptTer to be the surviving entity. TelePrompTer now owns twenty-four systems; the combined company will therefore own eighty-six. TelePrompTer has also recently acquired Filmation Associates, Hollywood, a producer of animated cartoons and commercials, which the firm intends to use as a "program source for television and CATV." In addition, TelePrompTer is involved in master-antenna TV and closed-circuit design and installation, and is a major provider of facilities for large-screen telecasts for business meetings, sports and special events. The principal stockholder of TelePrompTer is Hughes Aircraft, with 17 per cent of the stock.

As multiple systems have grown, the owners of a number of them have tapped an additional source of capital by going public. They thus create a large new group of persons with a financial interest in cable enterprises.

"When a cable company goes public," says Robert W. Wigod, a senior securities analyst with Paine, Webber, Jackson & Curtis and a specialist in CATV offerings, "it frequently must reorient its thinking to become compatible with the objectives of the broad body of stockholders."

The principal objective of stockholders is "growth." They want the company to increase in size and earnings as quickly as possible. This puts the MSO under pressure to do, not what will be of most value to the viewers of any individual cable system that it owns but what will increase the firm's assets most rapidly. Such growth is far more easily achieved by acquiring new systems, and by introducing costly new services on present systems, than it is by fully developing each system's subscriber list, existing services and individual requirements.

Mr. Wigod expects a rapid acceleration of the pattern. "The likelihood is that within two or three years there will be about ten publicly owned companies, each with more than 200,000 customers.

"Each will have a fairly strong central management with the ability to effect economies of size. . . . At that time it may be a lot harder for the CATV company with 20,000 or 30,000 customers to go public; but, on the other hand, there will be a very attractive and aggressive market for those who want to be acquired by the larger companies." The autonomous, locally owned cable system appears to be going the way of the buffalo.

The FCC's reaction to the situation has been tardy and weak. In April 1965 it issued a Notice of Inquiry on the matter of "acquisition of community antenna television systems by television licensees." In August of that year it followed with a report, stating that the danger of abuse was not yet "sufficiently great to warrant an overall or across-the-board prohibition against cross-ownership of CATV systems and television stations."

In 1967 the FCC began to look into the matter again. The National Association of Broadcasters rushed to the barricades. Congress, it said, must ultimately decide the role of cable TV. Until it does, restrictions on ownership would be premature. "Accordingly," said the NAB, "we respectfully request that no action with regard to promulgation of CATV ownership rules be taken at this time." The FCC soft-pedalled its activity.

In its 1968 proposed rules the FCC finally took a stand. One would forbid a TV station from owning a CATV system in the station's area of coverage. Another would restrict the number of CATV systems under one ownership (the Commission did not fix a definite number). On April 7, 1969, the Department of Justice endorsed the Commission's proposal to prohibit TV stations from owning cable systems in their own communities, and suggested that the prohibition be extended to newspapers.

These proposals are modest enough, but, except for the Justice Department's endorsement, the FCC is bucking massive opposition. The National Association of Broadcasters and the National Cable Television Association, hard-swinging antagonists on many other issues, are united against these requirements. John D. Matthews, a lawyer specializing in cable matters, told the 1969 annual convention of the NCTA that, of more than 200 parties filing comments in the Commission's rule-making proceeding, only two supported the proposed ownership restrictions. These two were, apparently, the Justice Department and the American Civil Liberties Union. It is an issue on which the Commission needs public and Congressional support, which so far it has not received.

By the end of 1969, both the cable systems and the television broadcasters had something new to consider. In December, Senator McClellan's Subcommittee on Patents and Copyrights reported out a proposed new copyright bill, which included sections on cable television. These provided that cable systems in the top fifty markets could transmit the signals of three network affiliates, three independents and one educational station, importing if necessary to fill the quota. In the 175 smaller markets, the quota would be three network affiliates, two independents and an educational channel. FCC permission would be required for transmission in excess of these quotas. Within the quotas, cable systems would be required to pay copyright fees, but would not have to negotiate either permission to carry the signals or the amount

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of the payment. Royalties would be paid on a sliding scale, from 1 per cent of the subscriber revenue of small systems to 5 per cent of the subscriber revenue of large systems.

As in FCC regulations, big broadcasters in the largest markets get the most protection. In the top fifty markets, cable operators would be completely barred from importing programs for which the local broadcaster held exclusive contracts. In smaller markets, the broadcaster's exclusive rights to copyright property would hold only for the first showing; after that the cable company could run it.

Exclusive copyright arrangements are a powerful tool by which broadcasters build audience groups and apportion markets. Many broadcasters are utterly opposed to any relaxation of the present system, and they can be expected to fight the McClellan bill. Some of them want to shift hearings on the bill from Judiciary to the Commerce Committee, whose ranking members, Sens. Warren G. Magnuson and John O. Pastore, have been sympathetic to broadcasting industry problems. How this crucial battle will come out is still anyone's guess.

Thus in dealing with cable TV, the nation's regulators and legislators continue to devote large amounts of time and effort to refereeing the short-range struggle for economic advantage. Meanwhile, cable technology grows swiftly, and the long-range issue of securing from it maximum public benefit remains unfaced. "The need for new and basic Federal law-making is urgent," the City Club of New York said in testimony on cable before the New York State legislature. "Yet there is no real prospect of federal legislation. The Congress seems permanently immobilized by the enormous political powers of the broadcasters and media conglomerates, as well as by its own internal conflicts of interests."

Before dealing with these long-range policy questions, I must review the activities of one more major interest group—the nation's telephone companies.

AT&T FEELS THREATENED

American Telephone and Telegraph owns outright sixteen telephone companies and is part owner of eight others. Collectively, they are known as the Bell System and they provide 85 per cent of the telephone service in the United States. The remaining 15 per cent is supplied by 2,500 independent companies that tie into the Bell System for service outside their areas. Bell has 872,000 employees and assets of $40 billion, three times those of General Motors and more than the governmental assets or the annual gross national product of most nations. AT&T is regulated by the Common Carrier Bureau of the FCC. This bureau has 160 employees, including clerical staff, and operates on an annual budget of less than $2 million. Its regulatory responsibilities include, besides the Bell System, fifty-four phone companies that operate across state lines, plus all other interstate communications common carriers, such as microwave relay systems, Western Union and Comsat.

The term "common carrier" has already appeared briefly in these pages; it will play a bigger part from now on, and at this point it should be carefully defined. Common-carrier status is assigned to enterprises offering services deemed necessary to the public, and whose nature dictates that they be run as monopolies or near monopolies. When a communications system is designated as a common carrier, two things follow. First, it must be accessible, on a nondiscriminatory basis and at standard rates, to anyone who wishes to use it. Second, the owner or operator may not interfere with the content of what goes over his system. The telephone system is a common carrier; broadcasting and cable TV are not.

For many years the telephone company owned the only communications wire going into the American home. Now a second one, the cable, is poking its way through the walls. And the cable is not just a second wire but one with far greater communications-carrying capacity than the telephone wire. "If a real broadband [coaxial cable] network is ever constructed," says FCC Comr. Kenneth Cox, "its operators could virtually provide conventional voice telephone service for nothing."

And much more than conventional phone service is at stake for AT&T. It is already involved in the common-carrier transmission of many types of electronic information other than voice-by-phone. For example, long-distance transmission of network television shows, TWX communications, various kinds of data, and exchanges of information between computers, go over phone company facilities at scheduled rates. Phone companies expect their greatest growth in the next decade to come from such non-voice types of transmission, and from such new services as Picturephone, rather than from expansion of ordinary telephone service. AT&T also keeps a sharp eye on such developments as the conducting of financial transactions by wire, and the home communications center.

Thus Bell would dearly love to extend its ownership to the second communications wire into the American home. Like those other fearless champions of free enterprise, the broadcast industry and the newspapers, the phone company prefers life without competitors. It has reacted to the coming of the cable in the same logical way as have those other two industries: some 30 per cent of the nation's cable systems are now owned by phone companies. AT&T may nevertheless have lost its bid to own the physical plant of the Wired Nation. The struggle has been one of the least known and most important to take place in Washington in recent times.

In working out its approach to cable TV, the telephone industry found itself in an odd position. In 1956 AT&T entered into an antitrust consent decree with the Justice Department, in which the company agreed not to conduct any kind of business other than common-carrier operations. The decree did not apply to the independent companies.

Since CATV systems do not at present have the status of common carriers, Bell System companies are excluded from being the actual operators of cables. Some of the independents have been operating cable facilities, but Bell must move more circumspectly. The device it uses is to build cable systems and let other parties run them on long-term lease. Telephone companies would like to own as many cable systems as possible. That would make

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them *de facto* owners of substantial portions of the Wired Nation network, if it comes into existence. In time the long-term leases will expire, and by then the FCC and Congress might be willing to let telephone companies own the Wired Nation, in whole, or in part.

A weapon the phone companies use to this end is their ownership of the poles or conduits by which their wires are brought into individual homes. It would be impractical for cable systems to create duplicate systems of poles or conduits, and it is unlikely that any municipality would permit it. Therefore, cable operators must negotiate an agreement with the phone company.

In some instances the phone companies have simply refused to grant pole-attachment rights; more often the situation has been one of interminable delay. Months go by while papers are shuffled. When the phone company finally does produce a schedule of rates, it may turn out to be disagreeably higher than the cable operator had expected.

There are other problems. The phone company, for example, has an easement to bring its lines onto private property such as apartment buildings. The cable operator does not share in this easement, and state governments, which have made easement rights available to phone companies, have given no such help to cable companies. The cable operator who builds his own system enters a jungle in which apartment building owners, or owners of rented homes, may refuse outright to let the cable come onto their premises, or may grant permission only upon payment of what amounts to a substantial bribe.

While fending off the cable operator who wants to build his own system, the phone company hopes that someone will come along who will ask the phone company to build and lease back the rig. Or the operator who originally wanted to build his own system, may throw in the sponge and ask the phone company to build and lease him the cable.

If that happens, all problems, obstacles and delays instantly vanish. The system is built quickly; the cable goes up on the poles; the phone company uses its easement rights to get it to its destinations; and the completed system is promptly turned over to the lessee.

Phone company construction of cable facilities may offer yet another advantage to the compliant operator. Assuming that neither the FCC nor the state Public Service Commission raises objections to the phone company's building the system, the phone company can install it—and the lessee can operate it—without having to enter into any franchise agreement with local municipal authorities.

The New York City Council has granted Manhattan franchises to two cable companies. Manhattan Cable TV will provide service in the southern half of the borough and TelePromptTer CATV in the northern half. Both firms will pay the city 5 per cent of their gross annual revenues, and both must lay their cables in underground ducts owned by Empire City Subway Corporation. Not surprisingly, Empire City is a wholly owned subsidiary of New York Telephone Company, which in turn is a subsidiary of AT&T. The cable companies incur huge expense in renting space for their

cables in these ducts. In addition, they report long delays by Empire City in making duct space available.

Meanwhile, a third firm, Comtel, is providing cable service in mid-Manhattan by leasing cable facilities laid in the Empire City ducts by New York Telephone. Comtel has never asked the city fathers for a franchise, and has no intention of doing so. Spared the 5 per cent of gross for the city, spared also the rental of expensive duct space, Comtel offers its service for $3.90 a month, compared to the $5 charged by the other two firms.

The city's board of franchises sought an injunction against Comtel, but the Court of Appeals ruled that the city has no power to require franchises for communications facilities provided by the telephone company.

Independent cable operators have not taken lying down the incursion of telephone companies into the cable field. Their most useful weapon to date has been Section 214 of the Communications Act, which states that if a phone company wishes to offer a given type of service, it must first secure from the Commission a "certificate of necessity and convenience." The Commission is supposed to grant the certificate only when satisfied that the service in question is needed and cannot be conveniently provided in any other way.

Attorneys for cable companies have strongly urged the FCC that the phone companies' entry into cable TV, and their discrimination against independent system builders in favor of leasebacks, is exactly the kind of

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situation that Section 214 was designed to prevent. On reflection, the Commission agreed. In June 1968, in a case involving the ramified cable TV activities of General Telephone Company of California, the FCC ruled that any phone company wishing to build a cable system for leaseback purposes, would first have to get a Section 214 certificate of necessity and convenience.

Requests for such certificates began to pour in. Some of them were challenged by cable operators. For example, New York Telephone Company filed a request for a Section 214 certificate to build and lease back a cable system in Hyde Park. An independent operator, Better TV, Inc., that wanted to build and operate a cable system in Hyde Park, protested. In its filing with the Commission the firm charged that the phone company had delayed granting it a pole attachment contract, meanwhile negotiating, and then signing a contract with, another operator who was willing to take a lease. The case has been set down for hearing.

However, many of the phone companies' Section 214 certificate applications have not been challenged, since they cover communities where no independent has staked a claim. In February 1969 the Commission instructed its Common Carrier Bureau to give a rubber-stamp O.K. to any unchallenged Section 214 applications. The action, endorsed by a majority of the commissioners, evoked a stinging dissent from Commissioner Johnson. "This Commission," he said, "continues to persist in making decisions with immense future impact on our society without the slightest information or consideration as to where we are going or what we are trying to achieve."

This well-aimed shot seems to have hit its mark. By April the Commission had a backlog of seventeen Section 214 certificate applications from phone companies, all of them requesting permission to lease the completed system to a company that was partly or wholly owned by the phone company making the application. At that point the FCC announced a Notice of Inquiry and Proposed Rule Making on a whole series of questions raised by phone company involvement in cable.

Many parties filed statements with the Commission in connection with the proceeding, including the Department of Justice, the National Cable Television Association, General Electric Company, AT&T and several other phone companies, the National Businessmen's Council, and Americans for Democratic Action. Several cable companies also made filings, describing their pole-attachment woes.

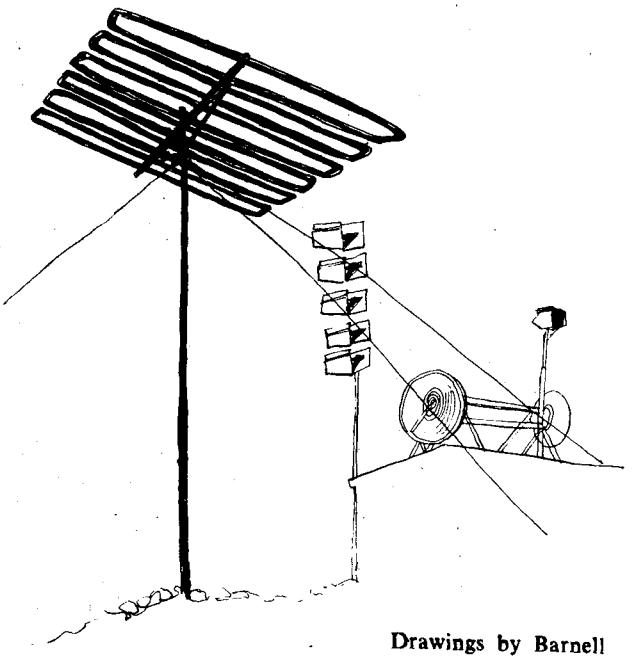
By fall, although the proceeding had not been completed and the Commission had issued no statements or rules, AT&T quietly decided that the jig on this issue was up. It wrote a letter to the FCC, promising to place no impediments in the way of independent CATV system owners who wanted to rent space on poles or in conduits. In December, General Telephone and Electronics Corporation, largest of the independent phone companies, did the same.

The Commission issued its report and its new rules on February 4, 1970. They prohibit phone companies from operating, either directly or through a company in which they have an interest, a cable system in areas where they provide service. Leasebacks to genuinely independent operators are still permitted, but the phone company must make it clear to a potential leaseback customer that, if he would prefer to build his own system, he will be permitted to use phone company poles or conduits at reasonable fees.

If energetically enforced, these rules will slow the phone companies' drive toward hegemony over the Wired Nation, but the real issues have only begun to be explored. Phone companies already have substantial ownership in cable TV, and leasing to genuine independents will continue. "They failed to achieve monopoly," says Lewis A. Rivlin, a Washington attorney who has represented cable operators in a number of suits against phone companies, "but they will settle for as much as they can get."

With the monopoly threat made less immediate, long-range questions must now be studied. What should be the role of the telephone company in the total communications setup of tomorrow? Should there be one great communications network, of which phone service is an integrated part? Should there be two systems, of which the phone company would be one? Should there be a number of systems? Should competitive firms offer the same or similar services?

In seeking answers, narrow approaches, old prejudices, and even many current arrangements, will have to be set aside. New concepts of the public and the national interest must be formulated. For example, Harold J. Barnett and Edward Greenberg, professors of economics at Washington University and consultants to the RAND Corporation, urge in the Winter 1968 issue of *Washington University Law Quarterly* a consolidation of telephone facilities and the cable network. "It would probably be sensible to merge the present telephone system into the WCTV [wired city television] system. In such an event, there could be available substantial economies in installation, maintenance, and operation of the WCTV system."



Drawings by Barnell

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Other solutions are being discussed, and some unlikely groups find themselves working together. At the FCC rule-making inquiry, the National Businessmen's Council and Americans for Democratic Action filed briefs that were similar in many ways. The crux of the current problem, both groups felt, is that cable systems have not been designated as common carriers. If they were so designated, the two groups asked, what is the objection to letting phone companies bid for their construction, along with all other potential builders, and granting construction rights to whatever party offers the best system and the best rates?

This obviously moves the discussion into deep waters. We approach the fundamental issues involved in creating the Wired Nation.

AN ELECTRONIC HIGHWAY

In the 1960s, the nation provided large federal subsidies for a new interstate highway system to facilitate and modernize the flow of automotive traffic in the United States. In the 1970s it should make a similar national commitment for an electronic highway system, to facilitate the exchange of information and ideas.

As in the building of any highway system, planning is necessary, and the nation must have some concept of what it wants. Inadequate or shortsighted approaches can result in large investments in systems that will not provide a full range of desirable or necessary service. This will mean either that the nation will do without such services, or that systems will soon have to be rebuilt at enormous additional cost.

There is still enough flexibility in cable TV to create national electronics highways in accordance with any pattern that the nation may select, but if planning is delayed, and if federal and state policies are not created to turn plans into reality, short-term commercial considerations will dictate the form of the network. A wired nation so created will almost certainly fail to incorporate services that would be strongly in the public and national interest—just as the present broadcasting system has failed from lack of national planning and policy. Unfortunately, no branch of the federal government has evolved such planning, nor is any in the process of doing so. The time when effective national decisions can be made and implemented is running out.

When the FCC asked in 1968 for comments on its new proposed rules for cable TV and on the future of the cable in U.S. communications, it received more than 200 submissions. Most of them, however, discussed the short-range problems covered by the proposed rules.

A notable exception was a 40-page presentation entitled "The Future of Broadband Communications," filed in October 1969 by the Industrial Electronics Division of the Electronics Industry Association. "The Industrial Electronics Division, Electronic Industries Association (IED/EIA) views the services to be provided by broad-band communication networks in the late '70's and early '80's of landmark importance," says the report. "We look upon such systems as being of 'national resource' dimensions and the development of these resources as a national goal. . . . The mushrooming growth in available information and the demand for access to this information is bringing about a revolution in communications which will produce a profound change in the way society is structured and in the way we live."

"The Future of Broadband Communications" explains with a fair degree of clarity the major services and benefits that a national cable network can provide; describes the type of cable setup that would have to be built to provide such services; and speculates on the relationship of wired nation services to the society of the country. It therefore addresses itself to the central questions on which U.S. communications policy must almost immediately be based. To assist in this policy making, there should of course have been available by now a detailed study of these questions from a Presidential commission, the FCC, the Congressional committees that have been dabbling in the short-range financial aspects of CATV, or from a source such as the RAND Corporation, which has been looking into cable TV with a generous Ford Foundation grant. But in the absence of any such study from any public or noncommercial source, IED/EIA's report is the best thing in its field.

IED/EIA, little known to the public, is highly regarded in Washington where it maintains national headquarters. Members of IED or its present association include IBM, Litton Industries, General Electric and other firms that would be the principal suppliers of the computers and other hardware needed to create the Wired Nation. During the 1960s, the association maintained gentlemanly silence on the industrial and commercial wrangles occasioned by the coming of the cable, a silence that may have been inspired in part by the fact that some of the equipment manufacturers in the membership are also in the broadcasting business. But it became obvious after a time that its interests did not coincide with those of the broadcasting industry. Broadcasters stood to lose from the diversity that the full development of the cable's potential would bring; IED/EIA's members stood to gain greatly from that development.

The political importance of "The Future of Broadband Communications" lies in the fact that IED/EIA is the first major industry group to break ranks with both the broadcasters and the cable TV industry, and to call for an immediate national commitment to wire the country. IED/EIA is also one of the few lobbies in Washington that may be a match for the broadcasters.

In the system proposed by IED/EIA, the nation's phone systems and its cable network would not be combined. The former would be a somewhat more elaborate version of what now exists, a system offering "videotelephone" service, with enough capacity to provide a limited amount of keyboard access to computers and to reproduce documents and other printed material in facsimile. These other services would be optional, and would probably be used principally by business, as is the case today.

The second system would be the broad-band cable network (BCN). It would provide a highway for national transmission and exchange of visual material, facsimile

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printed material and data. Each installation would include a narrower "return bandwidth," which would allow the subscriber to "talk" to central switching mechanisms, data storage banks and computers, to tell them what he wants to see or to have transmitted in facsimile. "We are talking," says the report, "of moving, at low cost, large amounts of information from central sources to the individual plants and homes where it is needed."

The report discusses a number of functions that such a system can perform:

Home Library Services. The contents of libraries can be put on microfilm or video tape. Using his "narrow-band return channel," the home or business user can request any book or publication. He receives it as page-by-page visual images on his screen, signaling for each page in turn. Or an actual copy of the book can be transmitted to him since, in addition to a visual screen, his equipment will include a facsimile recorder.

Facsimile Data Service. This service would provide business firms or individuals with what the report calls "selected visual material by category." It could consist of summary information on given subjects, or continuing summaries of new information or events relating to given subjects, or both. "The public acceptance has not been demonstrated," says the report, "since an equivalent service does not now exist to provide a measure of need. The reader will note the parallel to the case of the telephone demonstrated by Bell at the Philadelphia Centennial Exposition in 1876; no one then saw any need for such a device."

Delivery of Mail. The volume of paper work generated by business and private sources is expected to more than double in the coming decade. "This mass of paper," says the report, "will be sufficient to block communications channels as they now exist."

One institution that will probably be blocked for good unless something fundamental is done is the post office. It is estimated that by 1980, 108 billion pieces of mail (*excluding* checks!) will be handled annually.

An analysis of the mails made in 1968 by Arthur D. Little, Inc., for the President's Commission on Postal Organization, produced the following breakdown:

Transactions (checks, money orders, bills or statements, purchase orders, or questions about orders)	40%
Advertising	26%
Correspondence (personal, 13%, business, 5%, government, 4%)	22%
Magazines and newspapers	11%
Merchandise	1%

All this mail except the merchandise—that is, 99 per cent of all mail—can be transmitted by cable. The largest single category, the 40 per cent that represents transactions, is particularly well suited to cable transmission. Ordering, billing and payment of bills and accounts can all be handled automatically by computers that keep each person's account, and receive appropriate data by cable from buyers and sellers. "The financial community estimates that before 1980, we should be conducting almost all our fiscal operations, business and private, without the interchange of money or paper."

Correspondence can easily be sent by cable, once the appropriate system has been created, and letters will arrive at their destinations, anywhere in the United States, within minutes after they are posted. Third-class mail and advertising material can be sent simultaneously to coded groups of recipients, in accordance with the mailer's wishes.

Crime Detection and Prevention. The ability of law-enforcement agencies to deal with the growing incidence of crime may decrease steadily during the coming decade unless new detection and prevention techniques are developed. Foremost among these are the services that can be offered by a cable system. Within a community, streets and stores can be kept under surveillance from a central source. On a national level, computer-stored information can be available on a uniform basis to all law-enforcement agencies.

Travel. By 1980 physical travel, like the movement of paper, will have reached the saturation point. Cable networks will substantially reduce the need for business travel. Information and documents can be instantly obtained from distant sources. Conferences can be held by videophone, with each person able to see the others, and with all parties having access to documents.

The housewife can avoid trips to local stores and shopping malls. She can request displays of merchandise and prices from various stores on her home screen, and place her orders on the return band of the cable. The store will transmit the bill to the central accounting computer, which will automatically transfer the funds from the family's balance to the store's account.

Not all sources and authorities will agree with all of IED/EIA's concepts of the type of system that should be developed, or how it should be developed, but the organization is nevertheless the first to come up with a comprehensive working plan for the Wired Nation. The report makes clear that many details will have to be refined through experience, but it provides the description of a specific model, all of whose features are within easy reach of existing technology, and urges the necessity of reaching decisions and making a national commitment.

Important as the IED/EIA report may be for its pioneering description of a workable wired nation, it may prove even more important for two densely worded sentences that appear on page 32: "The public interest can best be served currently, in the immediate future, and the long run, by preservation of free, open and effective competition for the communication services that are and will become economically feasible where broad-band cable systems are installed. To insure this development, there should be a clear distinction between the communication service (CATV, video telephone, mail and data communication, etc.) being offered the public, and the transmission medium (broad-band cable systems) which carries the communications service." The words "common carrier" do not appear, but the meaning of this passage is unequivocal.

As with the National Businessmen's Council, the logic of its own commercial interests has caused IED/EIA to take a position exactly opposite to that embraced by the broadcast industry and the present cable industry. It lines up with such groups as Americans for

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Democratic Action and the American Civil Liberties Union in advocating that cable system be stripped of control over content. This is tantamount to saying that they should and must be common carriers.

If the CATV systems are designated common carriers, the owners will have no stake in any of the programs and services; rather, their interest will be to achieve as great a proliferation of programs and services as possible. For the National Businessmen's Council, this means competition on rates for the services they will want to use and, probably, a wider selection of such services. For IED/EIA, it means sale of more hardware. "With all due respect for whatever clout ADA and ACLU may have on the Hill," says one knowledgeable observer, "EIA's view is likely to be the thing that will turn the trick."

CREATING THE WIRED NATION

Cable TV is, at present, not only incorrectly set up to provide full benefits to the public; it is set up in a way to abridge basic freedoms of speech, press and assembly. If action is not taken by Congress, these characteristics will become basic features of the Wired Nation.

The defects of the present operation can best be understood by breaking the industry down into its three basic categories: the companies that manufacture the equipment and supplies used to build cable systems; the cable systems themselves; and the TV programs and other services that are sent over the cable.

A moment's reflection makes it clear that none of these three entities should be allowed to engage, or have any direct economic interest in, the activities of the other two.

No economic link should exist between cable companies and equipment suppliers. Cable companies should be free to buy equipment on the bases of quality, service and price. They should not be the captive customers of any company, or obliged to consider the welfare of a parent or subsidiary company.

Cable companies should exercise no judgment on the TV programming or any other service that goes over their cables. They should not be tempted to evaluate the content of such programming, or to limit offerings that might compete with their own programs.

If the cable operator is limited to leasing channel space at standard rates to all comers, then, of course, the cable becomes a common carrier; its nature and functions are transformed. *Congress should legislate the separation of the three entities in the cable industry, and should designate individual cable systems, and combined cable networks as common carriers, with access guaranteed to all comers.*

In addition to being made common carriers, cable systems should be assigned the status of public utilities. That would place them under additional controls and obligations. First, they would have to maintain certain standards of performance and a certain quality of service, as specified by the FCC and state Public Service Commissions. Second, they would have to conform to certain uniform technical standards, which would make possible interconnection of systems. Third, they could not do what the broadcast industry has grown rich by doing, and what the cable systems are doing now—provide service only in communities where high profits beckon. As public utilities, cable systems would be required to provide equal service to all communities. In exchange, the cable system would be permitted to average its total profits and losses for rate-making purposes. Such regulation, the City Club of New York told the New York State legislature in 1969, "can abolish second-class citizenship in communications without tangible additional costs to either the public, broadcasters, or to the cable carriers." And last but far from least, if cable systems were classified as public utilities, their rates could be regulated to insure fair tariffs and a fair return.

Cable systems meet every historic test for classification as common carrier and regulation as public utilities:

They are natural and unavoidable monopolies. Few communities need, or will support, two cable systems.

They provide essential service. Access to a full offering of diversified television communications and supplemental electronics services is not a luxury. It is probably, as IED/EIA strongly maintains in its FCC filing, an essential condition for the survival of our society.

A full offering of such facilities must be uniformly and universally available for public needs and public use.

The desirability of making at least part of the channel capacity of cable systems available on a common-carrier basis is now being discussed in many quarters. For example, in its 1969 rule making, the FCC gave cable systems permission to devote one or more channels to common-carrier service. That recalls Sidney W. Dean's comment, quoted earlier, that if the FCC had made common-carrier service mandatory and program origination optional, "we would be in the right ball park at last."

Dean's view was echoed in more formal terms by the American Civil Liberties Union. "The only basis upon which the cable system can develop into the two-way switched public utility system for which it has such great potential," the ACLU said in its filing with the FCC, "is through its operation as a common carrier. . . . Yet it is here that the Commission folds its hands and complacently leaves to operators the option as to whether and to what extent it will make leased channels and time periods available on a common-carrier basis."

In addition to freeing program content, and decisions as to the types of services that the cable will carry, from the control of the cable operator, common-carrier status would end a tremendous denial of basic freedoms that has been inherent in American TV. No provision exists, or ever has existed, for public access to broadcasting facilities, exclusive control resting with a small group.

It is not easy to understand why this way of disposing of the publicly owned electromagnetic spectrum has never been challenged in the courts as a violation of the First Amendment. In its brief, ADA wasted no words in setting forth its view. "Without affirmative safeguards by the Congress, electronic technology under laissez-faire eco-

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nomic dominance has denied the rights of the people to unabridged speech, press and assembly in the dominant media of our generation."

Cable systems would probably not oppose a requirement that they make one or more of their channels available to all comers, but the industry is fighting any move to designate cable systems in their entirety as common carriers. And it is battling as vigorously to escape public utility classification and regulation—especially of rates—either by FCC or by the states.

Rhode Island, Connecticut, Nevada and Vermont have passed laws bringing cable systems under the regulation of the state Public Service Commission. Many Connecticut communities need CATV, and before passage of the new law, numerous operators had applied for franchises. Since then, no cable system has been built in the state. The operators have gone elsewhere, where their profits will not be scrutinized or regulated. By doing so, they prove the importance of adopting public utility regulation in all the states.

In Nevada, two CATV firms went to court to escape regulation, claiming that, because the FCC had asserted authority over cable television, the federal government had pre-empted the field, and states were powerless to initiate public utility surveillance. A federal court dismissed the suit, stating that federal and state regulatory authority did not overlap; in February the Supreme Court upheld the decision.

Not only must charges for new and special services be appraised by public authorities but the fairness of existing charges also needs review. Most cities and communities grant franchises without having a background of information or experience to make certain that proposed monthly charges are fair. In addition, as noted, many municipalities have not cared about fairness—as long as the public purse received a big slice of the profits. Now monthly charges for cable rental are creeping up. *CATV*, the industry magazine, contains small news items such as:

> *Pennsylvania:* Milton CATV, Inc. has announced a monthly rate hike of $1 for their subscribers in Danville, Lewisburg, Milton and Watsontown. Milton CATV offers 7 video channels.
>
> *Wisconsin:* Abel Cable Co. has announced a monthly rate hike of $.50 for subscribers in Eau Claire. The firm offers subscribers 10 video channels.

This trend contrasts with calculations made by Barnett and Greenberg (*Washington University Law Quarterly*). Reviewing estimated capital cost statistics in a number of towns and cities of various sizes, the authors conclude that "the cost of wiring a community varies between $30 and $80 per home. At 15 per cent per annum for capital charges and maintenance, this would calculate to $1 per month or less. Allowing for contingencies and uncertainty, a figure of $1.50 is possible." The authors caution that the figures are "very rough" but they are sufficient reason for a thoroughgoing review by competent authorities of the whole structure of cable television charges. The matter will become increasingly important as cable largely or wholly supplants over-the-air broadcasting in major urban areas, when virtually everyone will be required to pay.

An important corollary is that the basic public utility functions of setting uniform technical specifications, and determining fair rates, must be retained at the federal level. This is the exact opposite of what the industry wants, and the exact opposite of current FCC policy, which holds that these and similar problems should be handled by local authorities.

How would the television part of the Wired Nation operate? Apart from those channels devoted to the retransmission of established commercial and educational stations, all channels would be available at regulated, uniform rates to business, government, civic, fraternal, labor, religious and other groups, and to individual members of the public, in time segments of, say, fifteen minutes and up. In addition to the actual cable, the common-carrier system could provide studios, cameras, tape recorders and players, studio personnel and related facilities, which the person leasing time might use as he wished.

The cost of renting time on the cable might turn out to be remarkably low. Barnett and Greenberg estimate that it would cost $6 million to wire completely a city of 100,000 homes (approximately 500,000 people). "[If] the common carrier were to charge . . . a rental of 5 per cent of the cost of the wired city each year, then the cost to senders of TV signals . . . would be $300,000 per year. This is less than $50 per day per channel. For a broadcast day of ten hours, this is less than $5 per broadcast hour." The difference between costs in this range, and the price that, for example, a candidate for office must now pay for air time, needs no comment.

How much will it cost to create the Wired Nation? For purposes of comparison, the electric power system operates with some $7 billion in gross plant investment, and the telephone system with some $51 billion in gross plant investment. Several guesses have been made for a national cable network, these assuming that the more available half of homes in America could be wired up for a given amount, but that costs would rise sharply as one tried to push the cable into every isolated corner of the country. A vice president of Bell Laboratories stated recently that it would cost about $12 billion to provide twenty-channel cable service to the more accessible 50 per cent of American homes. Beyond that midpoint, he did not go.

A study prepared for the President's Task Force on Telecommunications by Complan Associates estimated that there will be 100 million homes in the United States by 1980, and that about half of them could be wired up for about $5 billion. However, to reach them all would cost $123 billion. This, however, neglects the proved feasibility of servicing inaccessible areas and homes by over-the-air microwave relays and "earth satellites," instead of laying a cable to every last remote door.

ADA has also made an estimate: "Capital requirements for the basic carrier system are extended in the range of $15 billion to $40 billion, dependent upon the degree of integration with present telephone and telecommunications systems and the provision of subscriber terminal equipment." ADA believes that most of this sum can be raised, over a period of five years, from private investment sources, assisted by federal loans or guar-

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antees. For comparison, it notes that the Federal Interstate Highway System has received more than $50 billion in outright federal grants in the past ten years.

It is hard to assign a dollar value to many or most of the educational, cultural, recreational, social and political benefits that the nation would receive from a national communications highway. It is easier to assert the negative—that the nation probably cannot afford not to build it. But some interesting estimates have been worked out in areas where dollar values can be calculated.

IED/EIA believes that its proposed videophone-BCN network would result in immense annual savings. It summarizes as follows:

Domestic air travel	— over	$6 billion
Highways	— over	$6 billion
Police protection	— over	$3 billion
Fire protection	— over	$1 billion
Post Office	— nearly	$6 billion
Recreation	— over	$28 billion
Total	— over	$50 billion

The City Club of New York stated in testimony before the state legislature that communications economists foresee public and business purchases of broad-band communications services, once the network is completed, of between $40 billion and $80 billion a year. If 10 per cent of this total were spent in New York State, the City Club observed, and if it were subject to the usual franchise tax of 5 per cent, the annual revenue to government units in the state would run between $200 million and $400 million.

All these figures are rough, and they do not agree; but this much is evident—the network for a wired nation is well within the capacity of the economy. It can be done, and in one fashion or another it undoubtedly will be done.

Therefore, a number of important questions need to be answered, and soon. An agreed-upon overall plan is needed, and reasonably accurate cost figures must then be developed for it. The answer to the problem of remote homes may lie in the creation of a Rural Communications Administration, similar to the Rural Electrification Administration. Another serious question is how the nation's poor will pay for the new service, if and when it supplants, wholly or in part, the present system of free over-the-air transmission. The difference between current charges of $5 and up per month and the $1 to $1.50 figure of Professors Greenberg and Barnett, is fundamental for public policy in this area. A subsidy for the poor, if it proves necessary, cannot be shirked.

There are yet other issues. It cannot be assumed that all the social effects of the cable will be good. For example, the exodus of the middle and upper-middle class from the cities is expected to continue during the 1970s, and the stratification of society along geographic-economic lines will thereby be increased. At the same time, the cable will make it less and less necessary for the more affluent population of the suburbs to enter the city, either for work or recreation. Lack of concern and alienation could easily deepen, with effects that could cancel the benefits of community expression that the cable will bring to inner-city neighborhoods. At the very least, such dangerous possibilities must be foreseen, and the educational potential of the cable itself must be strongly marshaled to meet them. The bland treatment of this issue in the IED/EIA report is chilling.

There are other serious problems. Police surveillance by cable, and the compiling of financial, credit, and other personal information about individuals in computer banks, raise unprecedented issues of civil liberties and privacy. Privacy problems are also involved in the transmission of mail by cable. And in the creation of Facsimile Data Services such as those envisioned by IED/EIA in its report, the question is, who will decide what data is to be included in these services, and what is to be left out? Unless the issues involved in these future uses of the cable are understood and faced, 1984 could easily come well in advance of George Orwell's prediction.

Under any circumstances, however, the cable will be built, and the aim must be, through positive policy and intelligent action, to take every advantage of its tremendous potentials for social good. The way forward now is through the establishment of a Presidential commission on the Wired Nation. It would have as its mandate the development of a plan for creating a national broad-band communications system in the United States during the 1970s, and should be asked to submit its report within a year. That commission should conduct extensive consultations with economists, the business community, communications technicians and social scientists. Its report and recommendations might well serve as the basis for a special Presidential message to Congress, setting forth the plan, describing the type and amount of recommended federal participation, and seeking full Congressional and public support.

There is no reason to think that such support would be denied. But further delay at this juncture will forfeit great opportunities for shaping the swiftly approaching communications revolution for the public benefit. Leadership is required, and the time is now. □

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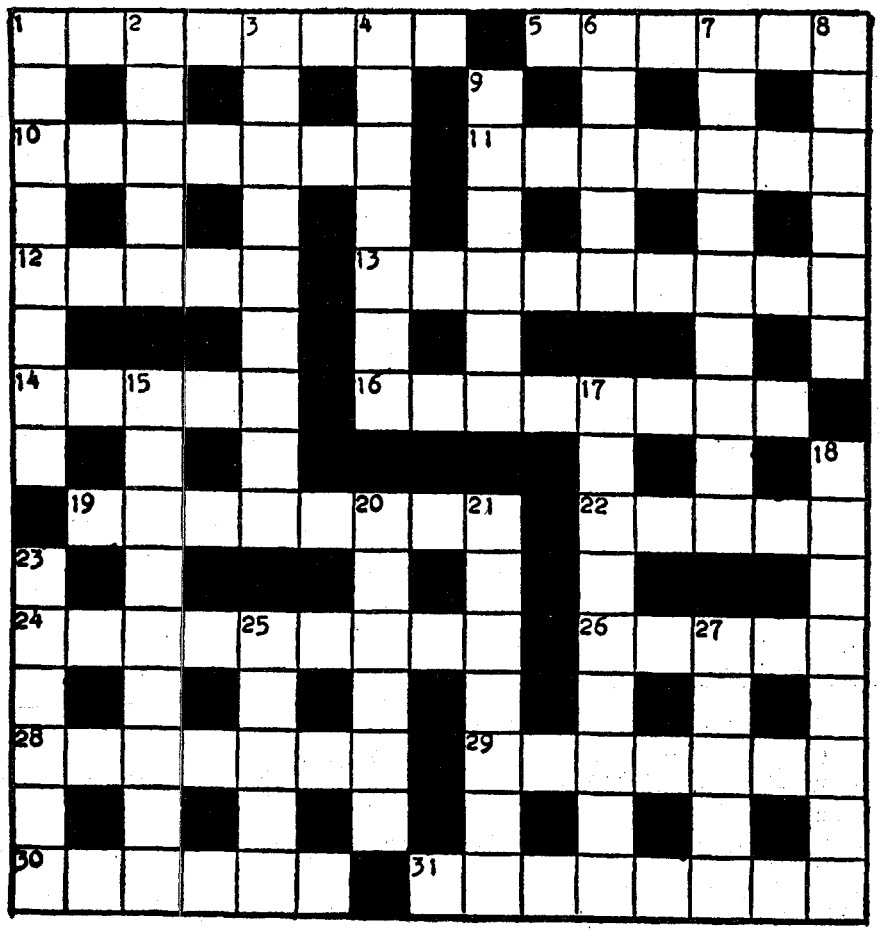

ACROSS

1 Where part of the force may be put in tavern wine bottle holders? (8)
5 and 21 down Does one who is skilled in working with different feet sometimes use it as a stretcher, even though he doesn't need it to operate? (6,7)
10 and 8 down NCO, obviously, associated with those who should perform well in public. (7,6)
11 Design suited exactly to a bird. (7)
12 Hard back? (5)
13 Possibly a fine beginning to a story, but cannot be expressed. (9)
14 In the next rainbow you see, look for it in addition. (5)
16 Pertaining to a well-known band of stars. (8)
19 The first thing a sailor might see come down on 20? (8)
22 A colorless and inactive sort of organ. (5)
24 Airy, in a sense? (9)
26 See 3 down
28 It might be on the point of writing! (7)
29 Making a clear profit on certain fabrics? (7)
30 Sometimes reputedly with more wisdom in such a state. (6)
31 Those on roller skates might not make it home having lost them. (8)

DOWN

1 Sometimes found on the verge of flight.
2 See 6 down
3 and 26 across Vaguely located part of a match, and ultimately a complete one. (6,3,5)
4 Perhaps using 5 and 21 for an unusually descriptive name. (7)
6 and 2 down. This way you might not be able to see where the biscuits came from! (3,2,5)
7 Acting a little shaky? (9)
9 Power to attract? Ask for a review, in any case. (6)
15 It might be a big blow to business, though possibly favorable. (5,4)
17 Quality in part? Or just according to the letter? (9)
18 Did westerners naturally advance so slowly? (2,6)
20 19 has no ground for being this. (6)
21 See 5 across
23 Doesn't keep what one takes by force?
25 Is it supposed to be an unforgettable state? (5)
27 It goes on and on, being a case of me in the middle—it's enough to make you cry! (5)

SOLUTION TO PUZZLE NO. 1345

ACROSS: 1 Measured tread; 10 Idiotic; 11 Tempera; 12 Knights; 13 Herbage; 14 Nonplus; 15 Dissent; 16 Subject; 20 Oarsman; 23 Outwear; 24 Efforts; 25 Elevate; 26 Stamina; 27 Eyebrow pencil. DOWN: 2 Edition; 3 Satchel; 4 Recasts; 5 Ditched; 6 Remarks; 7 Average; 8 Pick and shovel; 9 Valentine's Day; 17 Buttery; 18 Ewe lamb; 19 Torpedo; 20 Opens up; 21 Refrain; 22 Martini.

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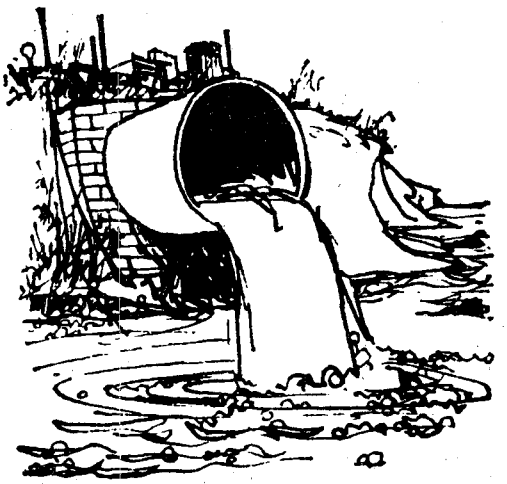

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